UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUMMARIES OF DATA ON AND LISTS OF REFERENCES TO METALLIC AND SELECTED NONMETALLIC MINERAL OCCURRENCES IN THE LIVENGOOD QUADRANGLE, ALASKA

SUPPLEMENT TO OPEN-FILE REPORT 76-819

PART A -- SUMMARIES TO AUGUST 1, 1981

By
Edward H. Cobb

Open-File Report 81-1342A

1981

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards.

Introduction

This report was prepared as a supplement to a 1976 report which summarized data on mineral occurrences in the Livengood quadrangle, Alaska (Cobb, E. H., 1976, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Livengood quadrangle, Alaska: U.S. Geological Survey Open-File Report 76-819, 241 p.). As a result of suggestions from users of the series of which the 1976 report is a part, this supplement is released in two parts: Part A, which presents summaries of data to August 1, 1981, and Part B, which consists of reference lists for each occurrence.

In Part A data from most reports released by the Geological Survey, the U.S. Bureau of Mines, and the Alaska Division of Geological and Geophysical Surveys between the cut-off date (January 1, 1976) for the original report and August 1, 1981 have been incorporated in rewritten or new summaries where appropriate. For each occurrence described in Part A the name, U.S. Bureau of Mines mining district, reference that has the occurrence plotted on a map on a scale of 1:250,000 (if there is one), list of mineral commodities, and location data are in the same format as in the 1976 report. Also included is a list of synonyms, owners, operators, and claim names.

In both parts citations are in standard bibliographic format with the exception that references to reports and maps in numbered publication series also show, in parentheses, an abbreviation for the report or map series and the number of the report or map. Abbreviations used are:

AOF	Alaska Division of Geological and Geophysical Surveys Open-File Report
B	U.S. Geological Survey Bulletin
BMB	U.S. Bureau of Mines Bulletin
C	U.S. Geological Survey Circular
GC	Alaska Division of Geological and Geophysical Surveys (and predecessor State agencies) Geochemical Report
IC	U.S. Bureau of Mines Information Circular
OF	U.S. Geological Survey Open-File Report
MF	U.S. Geological Survey Miscellaneous Field Studies Map
P	U.S. Geological Survey Professional Paper
RI	U.S. Bureau of Mines Report of Investigations
TDM	Alaska Territorial Department of Mines Pamphlet
USBM OF	U.S. Bureau of Mines Open-File Report

In Part B citations to the principal references used in preparing summaries in Part A are preceded by an asterisk. The form of citation used in the reference list for each occurrence is considered sufficient identification for each numbered report or map to be found easily in most libraries. Complete references to reports without identifying numbers are listed at the end of Part B.

(Alabam Cr.)	Gold
Rampart district	Livengood (11.9, 10.35) approx. 65°35'N, 148°22'W approx.

Good prospects of fine gold reported to have been found in 1915, but no further mention of mining or prospecting. About a mile above mouth of creek bedrock is 52 ft deep. Bedrock in area is mainly Ordovician chert.

Alaska	Gold
Fairbanks district MF-413, loc. 42	Livengood (19.2, 1.55) 65°04'N, 147°24'W

Several quartz veins, including one that may be in a slide block, as much as several feet thick; very few sulfides. A few tons mined before 1915 milled out at 1.45 to 1.94 oz/ton gold. Property explored by 2 adits and a 125-ft shaft with 112 ft of drifts from it (caved by 1931) and numerous pits and trenches. Bedrock lower Paleozoic or Precambrian schist. Includes references to: Fursteneau, Genki, Gladstone, Jupiter-Mars.

Alaska Flyer	Gold
Fairbanks district MF-413, loc. 17	Livengood (17.95, 0.85) 65°02'N, 147°34'W

30-ft shaft sunk on an auriferous quartz vein in schist near contact with Cretaceous-Tertiary granodiorite in about 1912. No report of more recent activity.

(Alder Cr.)	Gold
Fairbanks district MF-413, loc. 91	Livengood (20.65, 1.75-1.85) 65°04'-65°05'N, 147°12'W

Tributary of Fairbanks Cr. on which placer ground was mined in 1912, 1915, 1940, and probably other years. Production probably reported with that from Fairbanks Cr. See also (Fairbanks Cr.).

(Amy Cr.)	Antimony, Chromite, Gold, Lead
Tolovana district MF-413, loc. 69	Livengood (11.4, 9.7) 65°33'N, 148°26'W

Bedrock in lower part of valley mainly chert, dolomite, and limestone with some argillite and basalt and a small granite body; in upper part of valley mainly basaltic rocks and serpentinite. Placer gold mined in most years from 1918 to 1968; no data on amount of production, but creek was one of the most productive in the district. Most of mining in bench east of creek and at mouths of tributary gulches. Ground 25-100 ft deep; pay streaks 40-160 ft wide. Concentrates contain gold, magnetite, limonite, chromite and chrome spinel, pyromorphite, and stibnite.

Anaconda Co.	Lead, Zinc
Tolovana district	Livengood (18.65, 16.3) 65°54'N, 147°24'W

Altered volcaniclastic breccia contains galena, sphalerite, and secondary smithsonite in gossans. 87 mining claims staked.

Anna-Mary	Antimony, Gold, Lead, Silver
Fairbanks district MF-413, loc. 42	Livengood (19.2, 1.55) 65°04'N, 147°24'W

Lode 4-8 ft wide consists of 1-6 ft of crushed schist and 1-2 ft of clay gouge; lenticular masses of crushed iron-stained quartz with galena and arsenopyrite on dump. Material high in silver. Sample cut in 1931 across 5 ft at bottom of 15-ft shaft assayed 46¢/ton (1931 prices); some gold undoubtedly present, but how much of value in gold and how much in silver not known. Metallic minerals recognized are stibnite, limonite, argentiferous arsenopyrite, and probably argentiferous galena. Another lode on property was not explored.

Banner	Gold
Fairbanks district MF-413, loc. 45	Livengood (19.45, 1.65) 65°04'N, 147°22'W

Ore carrying free gold reported. Shaft was caved and partly filled by 1912. See also Homestake.

(Beaver Cr.)	Gold(?)
Tolovana district	Livengood(?) E. Cen. part of quad.(?)

Placer gold reported to have been found in basin in 1919. May have been in part of basin in Circle quad. Probably does not refer to Nome Cr.

(Bear Cr.)	Gold(?)
Fairbanks district	Livengood (20.9, 1.15) approx. 65°02'N, 147°10'W approx.

Prospecting in 1909 reported; no data on results.

(Bedrock Cr.)	Gold, Tin, Tungsten
Fairbanks district MF-413, loc. 88	Livengood (18.95, 1.6) 65°04'N, 147°26'W

Placer gold probably mined in early 1900's and possibly in late 1950's. Cassiterite and scheelite in concentrates. Bedrock uncovered in placer apparently contained some auriferous quartz veins that were mined from

an open cut and milled at nearby Cleary Hill mill [the reference reporting this (Brooks, 1923 (B 739), p. 30) is garbled]. Possible sources of placer gold on all slopes of creek basin.

Billy — Gold(?)

Fairbanks district — Livengood (21.5, 2.7) approx.
65°07'N, 147°05'W approx.

Essentially barren quartz (some iron-stained along joints). Assays of 29¢/ton reported; no statement that value was in gold.

Bobbie — Antimony, Lead, Silver

Fairbanks district — Livengood (19.1, 1.5)
MF-413, loc. 41 — 65°04'N, 147°25'W

Narrow stringer of nearly pure argentiferous galena; banded near walls and in large crystals in center of vein. Needles of stibnite form kidneys in which quartz crystals are imbedded and some pyrite is included. Prospect explored before 1912 by pits and an adit. No record of production.

Bradley — Gold(?)

Fairbanks district — Livengood (18.75, 0.9)
65°02'N, 147°28'W

Shallow shaft sunk in sulfide-bearing 2-ft-wide shattered and sheared milky quartz vein with sparse sulfides. Adit driven 200 ft in mineralized material; no distinct vein, but a few stringers and, at face, vein material near a fault and some gouge. No data on which sulfides or on possible gold content. See also North Star (Skoogy Gulch).

Branholm-Jenkins — Antimony, Lead

Fairbanks district — Livengood (19.8, 1.75)
MF-413, loc. 47 — 65°04'N, 147°20'W

Intermittent prospecting and some mining between about 1915 and 1929. Quartz vein in quartz-mica schist contains arsenopyrite, jamesonite, and galena; no data on probable gold and/or silver content. Included references to: Leindecker, NcNeil (& Huddleson).

Burnet (Twin Cr.) — Gold

Fairbanks district — Livengood (18.8, 0.75)
MF-413, loc. 32 — 65°01'N, 147°28'W

Brecciated auriferous quartz veins in weathered granite bedrock of a bench placer claim. Weathered bedrock was sluiced with placer gravel. See also (Twin Cr.).

Burnet (west of Twin Cr.)	Gold
Fairbanks district	Livengood (18.95, 1.0) approx. 65°02'N, 147°26'W approx.

Coarse gold reported to have been found in a small pit dug in slide rock.

Burnet Galena	Antimony, Lead, Silver
Fairbanks district MF-413, loc. 30	Livengood (18.75, 0.9) 65°02'N, 147°28'W

Flat-lying body of quartz with cubic cavities with limonitic material (probably after pyrite) contains lenses of argentiferous galena accompanied by jamesonite and secondary pyromorphite and cerussite. Country rock is quartz diorite intruded by granite porphyry. In 1931 there was an old shaft, an open cut, and a caved adit; sacks of galena-jamesonite-cerussite ore on dump.

Busty Belle (Mines, Inc.)	Antimony, Gold, Lead, Molybdenum, Silver, Tungsten, Zinc
Fairbanks district MF-413, loc. 20	Livengood (18.0, 0.45) 65°01'N, 147°34'W

Sulfide veins and gold-sulfide-quartz veins cut granodiorite-quartz diorite and adjacent schist (some in roof pendents) in contact zone of Pedro Dome pluton. Early development in 1911-12 and possibly for a few more years; silver-bearing galena and possibly some gold mined, but no record of amount of production. Small-scale surface prospecting and mining on 1950's; about 60 tons of hand sorted galena-jamesonite ore shipped and 25 tons stockpiled. Some surface and underground exploration in 1966-67. Mine was operated as a tourist attraction in 1973 and probably other years. Ore minerals reported include argentiferous galena, stibnite, gold, pyrite, chalcopyrite, scheelite and powellite (as thin coatings and in thin calcite veinlets along joints and fractures), sphalerite, tetrahedrite, and molybdenite. Includes references to: Freeman & Scharf, Silver Fox, Silvertone.

Butler (& Petree)	Antimony, Gold, Lead, Zinc
Fairbanks district MF-413, loc. 41	Livengood (19.1, 1.5) 65°04'N, 147°25'W

Shear zone about 6 ft wide in mica schist contains pyrite, arsenopyrite, galena, sphalerite, and stibnite; associated quartz veins also contain these minerals; tourmaline in border zones near veins. In oxidized zone gold is free; in sulfides lower down. Several hundred feet of underground workings before 1912; a long adit driven in 1931 to undercut older workings probably did not develop any ore. May have been some production, but there is no record of any. Included references to: B.P., Mazeppa, Reese, Rex (Mining Co.).

Charles	Gold(?)
Fairbanks district MF-413, loc. 54	Livengood (20.9, 2.0) 65°05'N, 147°10'W

Ledge reported to be 18 in. wide. References listed in Part B contradictory; probably was no production and quite possibly there was no gold. See also (Coffee Dome).

(Chatanika R.)	Gold
Fairbanks district MF-413, loc. 88	Livengood (16.85-18.5, 0.8-2.4) 65°04'-65°07'N, 147°30'-147°44'W

Placer gold produced from 1907 through 1963 by drift mining (1911-38) and dredging (beginning in 1928); some periods of inactivity. Ground is 65-200 ft deep along south side of valley between Cleary and Vault Cr's.; most mining was at and below mouth of Cleary Cr. and near mouths of Dome and Vault Cr's. Bedrock is schist; gravel largely quartzite, igneous rocks, and vein quartz. Sources of gold probably in Pedro Dome area 4-6 mi to south. More than 60,000 fine oz of gold with a fineness of about 852 mined 1907-10; later production not separately reported.

Chatham	Antimony, Gold
Fairbanks district MF-413, loc. 44	Livengood (19.4, 1.5) 65°04'N, 147°23'W

Quartz vein with gold, but very few sulfides, is 6-8 in thick; hanging wall slickensided. Cut by shear zone 10-15 ft wide containing shoots and kidneys of stibnite as much as 12 ft wide. Considerably more than 1,000 ft of underground workings. Operated as a gold mine, 1912-13, 1934, and possibly 1936; ore mined in 1912 ran 1.21-1.94 oz/ton gold. Worked for antimony, 1915-16, to a depth of 120 ft; at least 100 tons of ore shipped; another 8 tons from dump shipped in 1942; ore ran about 39% Sb. Includes references to: Chatam, Chatham Creek, Chatham Mining Co., Tanana Quartz Mining Co.

(Chatham Cr.)	Antimony, Gold, Tin, Tungsten
Fairbanks district MF-413, loc. 88	Livengood (19.05-19.15, 2.55-2.7) 65°04'N, 147°25'W

Bedrock mainly schist; granitic rock near head. Placer mining 1903-34; open cuts until about 1927 and dredges thereafter. No data on total production; about 14,500 fine oz through 1910. Reports indicate fineness of 851 (1905) and 818 (1913). Gold from near head of creek was rough. Stibnite has been found in veins in schist and was common on piles of dredge tailings. Concentrates contained scheelite and cassiterite as well as gold and stibnite.

Chechako No. 1	Antimony, Copper, Gold, Lead, Silver, Zinc

Fairbanks district MF-413, loc. 37	Livengood (18.7, 1.35) 65°04'N, 147°28'W

Stibnite, argentiferous galena, sphalerite, chalcopyrite, pyrite, arsenopyrite, and gold in veins, shear zones, and as replacement bodies in marble and calcareous schist. Veins and mineralized zones 3-15 ft thick. Prospect was explored by open cuts, 2 adits, and 3 shafts, which had caved by 1931. Probably was some production, but none was recorded. Includes references to: Eldorado Mining (& Milling) Co., Westonvi(t)ch. See also Tolovana.

Cheyenne	Gold
Fairbanks district MF-413, loc. 35	Livengood (18.9, 1.25) 65°03'N, 147°27'W

Float quartz carries about half an ounce of gold per ton. Shallow pits in frost-riven material did not find bedrock source. May be confusion between Cheyenne and Jackson in some of references listed in Part B.

(Cleary Cr., near Fairbanks)	Antimony, Gold, Tin, Tungsten
Fairbanks district MF-413, loc. 88	Livengood (18.45-19.15, 1.55-2.4) 65°04'-65°07'N, 147°25'-147°30'W

Bedrock schist. Creek and its major tributaries head in mineralized zone that extends from Last Chance Cr. to Fairbanks Cr. With tributaries, was most productive placer-gold stream in Fairbanks district; from 1903 through 1924 production was about 1,129,650 fine oz worth $23,346,900. Most was from drift mines working a pay streak 150 ft wide and with an average thickness of 5 ft. Dredges also operated 1924-41 and 1946-63. Placer ground essentially mined out, but small-scale mining in 1975 was reported. Concentrates contained gold, stibnite, cassiterite, scheelite, pyrite, garnet, and rutile. A lens of stibnite 75 ft long was uncovered during placer mining near mouth of Willow Cr. See also (Chatanika R.).

(Cleary Cr., near Livengood)	Gold
Tolovana district	Livengood (12.1, 8.5) approx. 65°29'N, 148°20'W approx.

Gold prospects reported in 1915. Apparently ground was very low grade as there are no later reports of prospecting or mining. Bedrock is chiefly Devonian clastic rocks.

Cleary Hill (Mines, Inc.)	Antimony, Copper, Gold, Lead, Silver, Tin, Tungsten, Zinc
Fairbanks district MF-413, loc. 39	Livengood (19.0, 1.55) 65°04'N, 147°26'W

Principal vein averages about 1 ft in thickness; maximum is 3 ft; smaller

similar parallel veins in both hanging and foot walls. At least one intersecting vein is largely stibnite. Veins are crushed, cross foliation of schist country rock, and are complexly faulted and displaced, which makes exploration, development, ard mining difficult. Thin limestone beds in schist contain scheelite. Cassiterite in weathered vein material. Metallic minerals in veins are gold, stibnite, arsenopyrite, pyrite, sphalerite, galena, chalcopyrite, jamesonite, covellite, and scheelite. Major lode-gold mine in district; mining reported in 1909-15, 1927, 1929-42, 1949. Total production not known; was worth about one million dollars as of 1931. Fineness determinations in 1913 showed 818 gold and 169 silver. Several thousand feet of underground workings and a mill on property. A few tons of stibnite mined during World War II. Mill has operated on ore from other mines at times. Includes references to: Alabama, California, Carlisle, Cleary, Cleary Hill (Alaska) Mining Co., Free Gold (Cleary Cr.), Idaho, New York, Paupers Dream, Rhoads (&) Hall, Rhodes (&) Hall, Roads & Hall, Snow Drift, Texas, V.

(Cleary Summit) — Antimony, Gold

Fairbanks district — Livengood (19.0, 1.2)
65°03'N, 147°26'W

Altered and sheared zones in schist near contacts with small quartz monzonite body contain stibnite and as much as 17.4 ppm Au.

(Coffee Dome) — Gold, Lead, Silver

Fairbanks district — Livengood (20.35, 2.2) approx.
MF-413, loc. 56 — 65°06'N, 147°09'W approx.

Prospect with gold, lead, and silver. No other data.

Colbert & Warmbold — Gold

Fairbanks district — Livengood (19.0, 1.2)
MF-413, loc. 42 — 65°03'N, 147°25'W

Small gold-bearing quartz veins in schist; prospecting in early 1930's. No further development reported.

Cornell — Gold(?)

Fairbanks district — Livengood (18.9, 1.25)
65°03'N, 147°27'W

Adit, shallow shafts, and pits. Probably no ore was found.

(Crane Cr.) (Gulch) — Gold

Fairbanks district — Livengood (20.4, 1.75)
MF-413, loc. 91 — 65°04'N, 147°14'W

About 1,765 oz of placer gold (as mined; fineness about 822) produced in 1908. Any other production was probably included with that from Fairbanks Cr. See also (Fairbanks Cr.).

Crosscut — Gold(?)

Fairbanks district — Livengood (18.85, 1.5)
65°04'N, 147°27'W

Prospect, presumably for gold. See also Tolovana.

Cunningham — Antimony, Gold

Fairbanks district — Livengood (19.0, 1.6)
MF-413, loc. 40 — 65°04'N, 147°20'W

Small vein contains much arsenopyrite and some stibnite. Samples said to carry much gold. Short adit and winze; no production. See also Sunrise (Cleary Cr.).

David — Gold

Fairbanks district — Livengood (18.75, 0.9)
MF-413, loc. 30 — 65°02'N, 147°28'W

Veins, all less than 2 ft thick, in silicified schist contain gold. Vein on which the most work was done and which was the source of the only reported production is a continuation of the vein on the adjoining Rainbow claim. The other veins contain arsenopyrite as well as gold. Amount of production, all in 1917-18, not reported; was from 100-ft adit and stope 65 ft long. Includes reference to Apex. See also Rainbow.

(Dawson Cr.) — Gold

Rampart district — Livengood (0.15, 8.25-8.3)
MF-413, loc. 57 — 65°28'N, 149°59'W

A large tributary of Hunter Cr. that drains an area underlain by rocks of the Permian-Triassic Rampart Group. Small-scale placer mining, 1911-13, and probably in some other years. See also (Hunter Cr.)

(Deep Cr.) — Gold

Fairbanks district — Livengood (21.1, 1.55)
MF-413, loc. 91 — 65°04'N, 147°09'W

Placer gold discovered, 1913. More recent data probably included with those for Fairbanks Cr. See also (Fairbanks Cr.).

(Dome Cr.) — Gold, Tin, Tungsten

Fairbanks district — Livengood (17.15-18.0, 0.85-1.7)

MF-413, locs. 84, 85 65°02'-65°04'N, 147°34'-147°41'W

Drift mining from 1905 to 1941; dredging from 1955 to 1959. Essentially inactive since 1960. Gold concentrated in upper 2 mi of course and within 2 mi of mouth; in the intervening 2-3 mi gold content is very low or absent. Ground is 30-200 ft deep; pay streak was 130-165 ft wide and about 5 ft thick. Production through 1920 was 394,245 fine oz of gold; data for later production are lacking, but this was one of the major gold-producing creeks of the district. In addition to alloyed silver, scheelite was abundant and cassiterite present in concentrates. The gold in the upper valley apparently was derived from lode sources near the Pedro Dome pluton; gold near mouth may be, in part at least, related to placer deposits on the south side of the Chatanika R. See also (Chatanika R.).

Dome View Gold

Fairbanks district Livengood (18.55, 1.1)
MF-413, loc. 27 65°03'N, 147°29'-147°30'W

Quartz vein with visible gold averages 30 in. in width and cuts across structure of quartz-mica schist near contact with quartz diorite. Some of vein is brecciated and iron stained. Adit 145 ft long. No recorded production. See also Mohawk.

(Dominion Cr.) Gold(?)

Tolovana district Livengood(?)
NE¼SE¼ quad.(?)

Prospects said to have been found in 1910; no other mention of this creek, the location of which is uncertain. Creek may have also been known by another name.

Earth Resources Copper, Molybdenum

Tolovana district Livengood (10.5, 8.1)
65°27'N, 148°34'W

Copper-molybdenum prospect discovered in 1972; was drilled at several locations. Work discontinued; no activity in following years. Geologic setting is Cretaceous clastic rocks intruded by felsic dikes(?).

Egan (Twin Cr.) Tungsten

Fairbanks district Livengood (18.65, 0.7)
MF-413, loc. 31 65°01'N, 147°29'W

Thin (less than 6-in.-thick) pegmatite dikes that cut granodiorite contain sparsely scattered grains of scheelite. Minor development. Deposit very low grade.

Egan & Egan — Gold

Fairbanks district — Livengood (20.95, 2.3)
MF-413, loc. 55 — 65°06'N, 147°10'W

4 or 5 quartz veins and crushed zone in biotite schist; a 20-in.-long sample across a vein contained 0.357 oz gold per ton. A little work was done on the prospect in 1930-31. Includes reference to lode near Kokomo Cr.

Emma — Gold

Fairbanks district — Livengood (18.9, 1.25)
MF-413, loc. 35 — 65°03'N, 147°27'W

Quartz vein 4-12 in. wide contains visible free gold. 10 tons of selected ore milled gave return of $38 (about 1.84 oz) per ton. Greenstone and schist country rock. Developed with inclined shaft and 100 ft of drifts. Abandoned soon after 1924. Includes references to Overga(a)rd. See also Cheyenne.

Empire — Gold

Fairbanks district — Livengood (19.2, 1.55)
MF-413, loc. 42 — 65°04'N, 147°24'W

14 tons of ore, presumably gold, mined in 1912.

(Ester Cr.) — Gold, Mercury

Tolovana district — Livengood (11.2, 8.85)
MF-413, loc. 73 — 65°30'N, 148°28'W

Bedrock 20 ft deep where being mined in 1916; 90 ft deep farther downstream. Concentrates contain gold, magnetite, ilmenite, picotite, cinnabar, limonite, and zircon. Prospecting or mining, 1915-16, 1928-34, and about 1960. Includes references to (Lucky Gulch) if not definitely to Goodluck Cr.

Eureka — Gold

Fairbanks district — Livengood (20.75, 2.05)
MF-413, loc. 53 — 65°06'N, 147°12'W

Reported that a 50-ft shaft was sunk and that there was a showing of 3 ft of ore. Some ore reported to have been milled at Chena in 1911. See also (Coffee Dome).

Excelsior — Antimony, Gold(?), Lead, Silver(?)

Fairbanks district — Livengood (19.95, 1.7)
MF-413, loc. 49 — 65°04'N, 147°18'W

2 veins carrying minor amounts of galena, arsenopyrite, and stibnite and possibly a little gold and silver in quartzite schist and graphitic schist. Reported production was probably very small. Veins might be related to a nearby granitic body.

(Fairbanks Cr.) — Antimony, Gold, Silver, Tin, Tungsten

Fairbanks district — Livengood (19.95-21.25, 1.4-1.8)
MF-413, locs. 50, 91 — 65°03'-65°04'N, 147°08'-147°19'W

Bedrock mainly schist; from 15 to 110 or more ft deep. Placer mining from 1903 to as recently as 1960's. Dredging began in 1911, but drift and other types of mining also continued. Production, including that from tributaries, from 1903 through 1920 was about 380,115 fine oz of gold; one of the most productive creek systems in the Fairbanks district. Minerals in concentrates include gold, wolframite, scheelite, cassiterite, rutile, and stibnite. Mineralized schist, opened by a short adit, carries 60 oz/ton silver and about 0.194 oz/ton gold. Quartz stringers carry the same amount of gold, but no silver.

(Fish Cr.) — Antimony, Bismuth, Gold, Tin, Tungsten

Fairbanks district — Livengood (20.1-20.5, 0.45-0.55)
MF-413, loc. 90 — 65°00'N, 147°14'-147°17'W

Depth of placer ground from about 25 ft to more than 100 ft; has been mined over a distance of at least 2½ mi in the upper valley and also at and just below mouth of Fairbanks Cr. Bedrock chiefly schist. Mined by drifting, dredging, and from open cuts; on various scales and in most years between 1909 and 1977; one small operation active in 1977 at mouth of Pearl Cr. Total production figures not available, but gold yield has been significantly large. Minor amounts of stibnite, auriferous bismuth nuggets, cassiterite, and scheelite in concentrates. See also Vogt, Fairbanks quad.

(Franklin Cr.) (Gulch) — Gold

Tolovana district — Livengood (10.95, 9.7) approx.
MF-413, loc. 64 — 65°32'N, 148°30'W approx.

Shallow placer mined, probably in 1915. Creek is tributary of Livengood Cr.

Frederick(s) — Antimony, Gold

Fairbanks district — Livengood (17.4, 0.7)
MF-413, loc. 13 — 65°01'N, 147°39'W

Mineralized shatter zone in schist cut by granitic dikes. Lode consists of quartz and sulfides and their oxidation products. Kidneys of stibnite, some coarsely columnar and some finely granular, more abundant near footwall than hanging wall, which is a smooth fault surface. Developed

to a depth of 300 ft by shafts and 3 levels of drifts. Some of ore very rich in gold; production (amount not known), 1910-12. Stibnite mined, probably in 1916; some may also have been taken from a dump later. Probable mill ore on dump in 1931 assayed 0.07-0.14 oz/ton gold. Includes references to Friederich.

(Gertrude Cr.) — Gold

Tolovana district — Livengood (10.9-11.1, 9.45)
MF-413, loc. 76 — 65°32'N, 148°29'-148°30'W

Shallow bench and creek placers mined intermittently, 1915-18, 1930 to 1960's. Bedrock at mouth metabasalt; chert and silicified dolomite in middle course; serpentinite near head. Gold (0.9 ppm) in massive, iron-stained, silica-carbonate rock ¼ mi above mouth. Moderate gold production; placer ground probably essentially mined out. Source of placer gold in this drainage basin. Gold is fine, angular, and shotty.

Gilmer — Antimony, Gold, Lead, Silver

Fairbanks district — Livengood (17.4, 0.5)
MF-413, loc. 14 — 65°01'N, 147°39'W

Fracture or shear zone that has been traced for 600-700 ft is 3-5 ft wide and contains shoots and kidneys of stibnite as much as 4 ft across. Some fractured quartz cemented by stibnite. Some galena (argentiferous) also present. Ore samples averaged 0.75 oz/ton gold and from a trace to 1.96 oz/ton silver. A little antimony ore was mined in 1915. In 1942 about 2 tons of sacked high-grade stibnite was on the property.

Gilmore tunnel

Fairbanks district — Livengood (19.85, 1.6)
MF-413, loc. 48 — 65°04'N, 147°19'W

Tunnel driven from Gilmore mill to intersect workings of Mizpah and Ohio (Fairbanks Cr.) mines. In 1942 there were 30 sacks of lead-copper-antimony ore in the mouth of the tunnel; source not known. See also: Mizpah, Ohio (Fairbanks Cr.).

(Glen Gulch) — Gold

Tolovana district — Livengood (11.0, 9.4)
MF-413, loc. 67 — 65°32'N, 148°29'W

Fine, angular gold (a few pieces as much as 0.05 oz) in 2-4 ft of gravel on silicified limestone bedrock. Mining in 1916, 1931-34. See also (Gertrude Cr.).

Goepfert	Gold, Lead
Fairbanks district MF-413, loc. 30	Livengood (18.75, 0.9) 65°02'-65°03'N, 147°28'W

2 or more prospects; references confusing. At one prospect a short adit follows a thin auriferous quartz vein in granite near contact with schist. At another a short adit was driven on a ledge containing galena. No mining reported. Includes references to Goepfert Galena.

(Gold Mountain Cr.)	Gold(?)
Tolovana district	Livengood(?) NE¼SE¼ quad.(?)

Prospects reported to have been found in 1910. No further data. Location of creek not known. May be in Circle quad. Probably also known by some other name.

(Goodluck (Lucky) Cr.)	Chromite, Gold, Mercury, Niobium, Rare-earth elements, Tin, Uranium
Tolovana district MF-413, locs. 70, 71	Livengood (11.5-11.7, 9.75-9.8) 65°33'N, 148°24'-148°25'W

Chert and silicified limestone apparently separated by a small body of diorite or greenstone. In 1916 or earlier a shaft sunk 60 ft to bedrock found some gold just above bedrock. Mining reported in 1918, 1934, and 1939. Concentrates contain gold, chromite, chrome spinel, limonite, hematite, magnetite, ilmenite, cinnabar, cassiterite, and a niobium-titanium-uranium-rare earth mineral of the euxenite-polycrase series. Includes references to (Lucky Cr.) (Gulch) if obviously to this stream.

Goodwin	Antimony
Fairbanks district MF-413, loc. 10	Livengood (16.9, 0.3) 65°00'N, 147°45'W

Lenses of massive stibnite as much as 3-4 ft wide in crushed schist that contains some pyrite; same ore zone as at Scrafford mine. Developed by adit and inclined shaft. Some ore may have been mined and shipped in 1916. A little high-grade ore was on dump in 1942; sample contained 32.95% Sb. Some production (amount not stated) in 1968-69; may have been from ore on dump. Includes references to: Eagle, (Eagle Cr.). See also Scrafford.

Governor	Gold
Fairbanks district MF-413, loc. 49	Livengood (19.95, 1.7) 65°04'N, 147°18'W

Shaft sunk 70 ft on a nearly vertical vein about a foot wide. Fine-grained igneous rock, probably granite, said to carry $10-$15 in gold

(at $20.67); rock has many small vugs, probably the result of leaching out of sulfides. Prospect had been idle for some time by 1912.

Grace E #1 — Gold

Fairbanks district — Livengood (19.3, 1.7)
65°04'N, 147°24'W

Prospect opened on 2 small quartz veins that carry 2-3 percent sulfides (including arsenopyrite and minor pyrite) and free-milling gold. 1.3 ppm Au assay from unaltered schist 9 ft into hanging wall. See also Vetter (-Shelden); probably on the same ground.

Grace E #2 — Gold

Fairbanks district — Livengood (19.2, 1.55)
65°04'N, 147°24'W

Analyses of grab and channel samples from auriferous quartz veins and adjacent schists showed gold values greater than 0.6 ppm 10 ft into footwall; in hanging wall concentrations ranged from 0.63 to more than 2.50 ppm Au. May be on the same ground as the old Alaska mine.

Griffin — Gold

Tolovana district — Livengood (10.65, 9.1)
MF-413, loc. 3 — 65°31'N, 148°32'W

Samples of massive, sulfide-bearing, green-stained, silica-carbonate-talc rock with quartz veining contained as much as 3.9 ppm Au. Caved adit and pits at property. See also (Lillian Cr.).

(Grouse Cr.) — Gold(?)

Rampart district — Livengood
NW¼NE¼ quad.

Prospects reported, 1915; creek northeast of Livengood. No more recent data, so the prospects, if there really were any, could not have been very good.

(Gunnison Cr.) — Gold, Tungsten

Rampart district — Livengood (2.3, 7.9)
MF-413, loc. 61 — 65°27'N, 149°41'W

Placer gold mining reported in 1904 and 1918; probably some in other years; some prospecting or mining reported near mouth in late 1960's. Concentrates contain magnetite, ilmenite, scheelite, and pyrite. Creek drains granitic contact zone on north side of Sawtooth Mtn.; bedrock mainly quartzite, phyllite, slate, and chert.

Harris & Brown — Antimony

Fairbanks district — Livengood (19.4, 1.5)
MF-413, loc. 44 — 65°04'N, 147°23'W

50-ft shaft sunk on a steeply dipping vein. Quartz brecciated and fragments cemented in matrix of crushed quartz; similar rock with matrix of stibnite also on claim. Sulfides deposited in late stage of vein formation. See also Vetter(-Shelden); close by if not on the same ground.

Herschberger, Beall & Phipps — Gold

Fairbanks district — Livengood (18.85, 1.5) approx.
MF-413, loc. 38 — 65°04'N, 147°27'W approx.

Group of claims on Willow Cr. Some rich ore (assumed to be gold) taken out in 1910. See also Tolovana.

(Hess Cr.) — Gold

Rampart district — Livengood
N½ quad.

Gold found in basin as early as 1892 and a little recovered from a gulch near head of creek in 1893. Gold has been found on bars 40 mi below forks. Has been prospecting, but no mining except on South Fork. Includes reference to (Mike Hess Cr.). See also (Hess Cr., South Fork).

(Hess Cr., South Fork) — Gold

Rampart district — Livengood
SW¼NE¼ quad.

Some of gravel carries gold, but not in continuous pay streaks. See also: (Alabam Cr.), (Moose Cr.).

Hidden Treasure (near Fairbanks) — Gold

Fairbanks district — Livengood (18.55, 1.3)
MF-413, loc. 28 — 65°03'N, 147°30'W

Developed and mined, 1910 to about 1914. Long inactive by 1931, and no known exploration since. Nonpersistent quartz gash veins in a west-trending mineralized fault zone in schist; largest vein about 3 ft wide.

Hirschberger & Zimmerman — Gold

Fairbanks district — Livengood (18.85, 0.9)
MF-413, loc. 33 — 65°02'N, 147°27'W

Ore shipped, 1911. Vein said to be 1-5 ft wide. No other data. See also Zimmerman (near Twin Cr.).

Hi-Yu (Mining Co.) — Antimony, Gold, Lead, Silver, Zinc

Fairbanks district — Livengood (20.1, 1.75)
MF-413, loc. 51 — 65°04'N, 147°17'W

Many quartz veins (some along faults and most offset by faults) contain free gold and sulfides, including stibnite, argentiferous galena, arsenopyrite, pyrite, and sphalerite. Some oxidation products. Some silicified schist between veins might constitute low-grade gold ore. Considerable surface enrichment in places; 6.29 oz/ton in gold for some ore. Stibnite in kidneys and irregular veins. Stibnite has been mined, but this is primarily a gold mine. Well over a mile of workings; had own mill. Operated from 1913 to 1940 except for 1 or 2 years and in a few years between 1941 and 1951. Mill production through 1931 was about $252,000 (equivalent to about 12,200 fine oz of gold) from 8,200 tons of ore. After 1936 sulfide concentrates were shipped to smelter. Probably one of the three most productive lode mines in the Fairbanks district; no data on total production. Includes references to: Crites & Feldman, Dorando, Feldman, Gibbs, Helen S., Insurgent, Nars (, Anderson & Gibbs), Saucy, Summit, Sunnyside (near Fairbanks), Teddy R, Wolf (Too Much Gold Cr.), Yankee Doodle.

Hoel Bros., Johnson & Witmer — Gold

Fairbanks district — Livengood (17.0, 0.7)
MF-413, loc. 11 — 65°01'N, 147°42'W

Prospect developed by 280 ft of shaft and 60 ft of drift in about 1910. One vein is 30 ft wide with low gold values; another, which is richer, is 8-24 in. wide. No record of production.

Homestake (Mining Co.) — Antimony, Copper, Gold, Lead, Silver, Zinc

Fairbanks district — Livengood (19.45, 1.65)
MF-413, loc. 45 — 65°04'N, 147°22'W

Several mines have operated on various parts of this property at various times from 1910 to as recently as 1970. Deposits are quartz veins with gold and sulfide minerals, including jamesonite, stibnite, argentiferous galena, freibergite, pyrite, chalcocite, chalcopyrite, and sphalerite. Some of gold ore was quite rich (25 tons yielded 5.48 oz/ton in free gold). Workings consisted of about half a mile of crosscuts and drifts, an inclined shaft, and stopes. Mines were very wet, so very little mining could be done below crosscut level. Also was some mining from open cuts. Gold, silver, and antimony have been produced; most if not all of gold in sulfide concentrates was lost. Total production not know; through 1931 was the equivalent of about 2,900 oz of gold. Includes references to: Christina, Horton & Solomon, Jamesonite, Kawalita, Keystone, Nordale, Rexall.

(Hoosier Cr.)	Gold(?)
Tolovana district	Livengood(?) NE¼SE¼quad.(?)

Prospects said to have been found in 1910; location not known; said to be in upper Beaver Creek drainage. May be in Circle quad. May also have been known by another name.

Hoover	Antimony, Gold
Fairbanks district MF-413, loc. 26	Livengood (18.5, 0.75) 65°01'N, 147°30'W

Quartz veins in sheared and brecciated zones in schist contain stibnite, pyrite, arsenopyrite, and gold. Mill tests reported to have recovered about 0.39 oz/ton in gold. Developments included 390-ft tunnel and shallow shaft (caved by 1931) and bulldozer trenching in 1968. Bedrock in area is quartz-mica schist, quartzite, and migmatite. Includes references to: Anderson & Birch, Birch & Anderson, Busch & Anderson.

(Hunter Cr.)	Copper, Gold, Lead, Mercury, Tin
Rampart district MF-413, loc. 57	Livengood (0.0-0.2, 8.3-8.35) 65°28'N, 149°58'-150°00'W

Bedrock is Permian-Triassic slate, quartzite, and tuffaceous greenstone of the Rampart Group and Tertiary sandstone and conglomerate. Stream cuts through high bench gravels east of Minook Cr. Bench on south side of valley slopes toward creek. Pay streak is 8-10 ft of gravel and top few feet of shattered bedrock; 20-30 ft of muck over gravel. Concentrates contain gold, magnetite, ilmenite, hematite, barite, pyrite, picotite, cinnabar, galena, cassiterite, and native copper. Most of mining was by hydraulicking and on a fairly small scale. Began in 1896 and continued with few interruptions to as recently as 1940. See also (Hunter Cr.) Tanana quad.

(Idaho Bar)	Gold
Rampart district MF-413, loc. 58	Livengood (0.1, 7.85) 65°27'N, 149°59'W

Deposit of auriferous Pliocene(?) gravel as much as 100 ft thick capping high bench about 1,000 ft higher than mouth of Little Minook Cr. [Tanana quad.] was prospected and drift mined in 1913, the late 1920's, and the 1930's; some work reported as recently as 1975. Some of ground cleaned ran as high as $1 (about 0.048 oz) in gold per bedrock foot. Concentrates contained coarse and shotty gold, ilmenite, hematite, magnetite, zircon, and garnet. Bedrock is chert and greenstone similar to that at Hunter Cr.; Permian-Triassic Rampart Group. Lack of water greatly hampered mining.

Independence	Gold, Lead
Fairbanks district MF-413, loc. 32	Livengood (18.8, 0.75) 65°02'N, 147°28'W

Fracture zone in porphyritic granite mineralized with vein quartz; iron-stained joint surfaces in country rock also carry gold. Fracture zone becomes barren where it crosses contact from granite to schist. Gold, pyrite, arsenopyrite, and galena present; about 2/3 of gold in sulfide minerals. Assays show 0.19-1.84 oz/ton gold. Developed by 2 tunnels. Probably has been minor production. See also Moonlight.

(Independence Cr.)	Antimony
Fairbanks district	Livengood (16.9, 0.3) 65°00'N, 147°45'W

Sparse stibnite in shear zone in schist; no other data. See also Goodwin.

I.X.L.	Gold(?)
Fairbanks district	Livengood (19.2, 1.55) 65°04'N, 147°24'W

Lode claim on which there may be gold. See also Pioneer (Chatham Cr.).

Jackson	Antimony, Gold, Lead, Silver
Fairbanks district MF-413, loc. 36	Livengood (19.0, 1.2) 65°03'N, 147°26'W

Several quartz veins parallel and others cut across schistosity of quartzite schist and mica schist. Veins and country rock are all cut by many faults, at least some of which were pre-ore. Some gold is free and some is in sulfide minerals; sulfides identified are stibnite, jamesonite, argentiferous galena, pyrite, and arsenopyrite. Deposits explored by open cuts and several hundred feet of underground workings. No record of production. Includes references to: Hess & Burnet(t), Silver King.

Jackson and associates	Gold(?)
Fairbanks district	Livengood (19.05, 1.05) approx. 65°02'N, 147°26'W approx.

Prospect pits on possibly barren quartz that cuts greenstone-like schists.

Johnson	Antimony, Gold, Tin, Tungsten
Fairbanks district MF-413, locs. 38, 88	Livengood (18.85, 1.5) 65°04'N, 147°27'W

In 1942 a placer cut on Willow Cr. exposed high-grade stibnite in several parts of a wide quartz zone. Largest vein of stibnite (with occasional quartz and other sulfides) was 6-18 in. wide and was traced for 75 ft.

In 1912 a shaft was sunk 16 ft on a nearby quartz stringer that contained stibnite. Placer concentrates contain cassiterite, scheelite, and (presumably) gold. Includes references to (Willow Cr., near Fairbanks). See also Tolovana.

Kellen — Antimony, Gold

Fairbanks district — Livengood (19.85, 1.6)
MF-413, loc. 48 — 65°04'N, 147°19'W

Small, low-tenor, auriferous quartz veins in blocky schistose quartzite. A crushed and recemented quartz vein contains stibnite and oxidation products. Exploratory shaft and tunnel, but no production, before 1913.

(Kokomo Cr.) — Gold

Fairbanks district — Livengood (21.0-21.25, 2.4-2.5)
MF-413, loc. 92 — 65°07'N, 147°08'-147°09'W

Placer gold discovered, 1921. Mining 1937-40. No other data. See also Egan & Egan.

(Lillian Cr.) — Antimony, Chromite, Gold, Mercury, Nickel, Silver, Tungsten

Tolovana district — Livengood (10.5-10.65, 9.1-9.15)
MF-413, locs. 3, 66 — 65°31'N, 148°32'-148°34'W

Stream and bench placers; bedrock (graywacke, shale, and slate and smaller amounts of limestone and greenstone) surface beneath benches is irregular and slopes steeply toward the creek. Concentrates contain angular coarse gold, magnetite, ilmenite, picotite, limonite, cinnabar, scheelite, zircon, pyrite, stibnite, barite, and arsenopyrite. A vein of stibnite is reported to have been uncovered during placer mining. A mineralized zone in a cutbank contains stibnite and traces of cinnabar and gold. A sample of serpentine contained small amounts of nickel sulfides and silicates. Cinnabar in decomposed granitic material. Auriferous arsenopyrite-quartz-scorodite veins contain as much as 48 ppm Au and 2 ppm Ag. Placer mining began in 1915 and was being carried on as recently as 1977.

(Little Eldorado Cr.) — Gold, Tin, Tungsten

Fairbanks district — Livengood (17.95-18.5, 1.3-2.0)
MF-413, locs. 86, 87 — 65°03'-65°06'N, 147°30'-147°35'W

Mined from 1907 to 1941 with a few inactive years; some production, 1948-54. Worked by underground drift mining in lower part of valley where ground is about 85-175 ft deep, and by drift mining and later dredging in upper part of valley. Bedrock is schist and creek heads in contact zone of the Pedro Dome pluton. One of the more significant gold-producing creeks of the area; possibly some potentially minable ground remains

in the lower part of the valley. Production from 1907 through 1926 was about 116,800 fine oz of gold. One 20-oz nugget reported. Concentrates also contain cassiterite, scheelite, and wolframite.

(Livengood Cr.) — Antimony, Chromite, Gold, Monazite, Tin, Tungsten

Tolovana district — Livengood (10.5-11.3, 9.3-9.75)
MF-413, locs. 5, 64 — 65°31'-65°34'N, 148°25'-148°34'W

Gold discovered in 1914; most is in a buried channel under a bench on the northwest side of and parallel to creek; bench has a linear extent of at least 4 mi, an average width of about 125 ft, and with an average depth to bedrock of about 80 ft. Bedrock mainly chert, silicified limestone/dolomite, and greenstone. Gold is in basal part of gravel and in weathered, fractured top of bedrock. Other minerals in concentrates include magnetite, ilmenite, picotite, hematite, pyrite, cassiterite, scheelite, and monazite. Small stibnite vein in bedrock was uncovered in a drift mine; some stibnite said to have been shipped out by parcel post during World War I. Placer mining by drift and open-cut methods between 1914 and 1977, with probably a few inactive years. Lower part of creek dredged 1940-41 and 1946 to about 1950. Large-scale mining underway in 1976-77. One reserve estimate based on data from 640 drill holes indicates about 17 million yd^3 of placer gravel that would average about 0.02 oz/yd^3 in gold. Geologic history of placer deposits not fully understood; lode sources probably mainly on southeast side of creek; drainage divide between upper Hess Cr. and Livengood Cr. shifted back and forth several times by stream piracies. Livengood Cr. has been the largest placer gold producer in the Tolovana district; probably accounted for at least half of the 330,000 fine oz attributed to the entire district.

(Lost Cr.) — Asbestos

Tolovana district — Livengood (15.6, 17.35)
65°58'N, 147°49'W

Cross-fiber chrysotile veinlets in float rock; source unknown.

(Lucille Cr.) (Gulch) — Chromite, Gold

Tolovana district — Livengood (11.25, 9.6)
MF-413, loc. 68 — 65°32'N, 148°27'W

Considerable prospecting before 1916 and in 1934 reported; probably was some in other years. No record of mining. Chromite and chrome spinels reported to occur in placers; from this and the work put into prospecting it seems certain that some gold was found. Thick overburden and poor water supply.

Markovich	Antimony, Gold
Fairbanks district MF-413, loc. 22	Livengood (18.0, 1.3) 65°03'N, 147°34'W

Badly crushed iron- and manganese-stained quartz contains stibnite and arsenopyrite; sample assayed 0.202 oz/ton in gold. At least 2 veins have been worked for stibnite. 200 tons of stibnite ore reported to have been shipped in 1916 and about 16½ tons in 1949 (most from old dumps). A little gold ore reported to have been mined and milled in 1918. Well over 500 ft of workings. Includes references to: Hindenburg, Ohio (Little Eldorado Cr.), Marcovich.

May Florence	Gold(?)
Fairbanks district	Livengood (18.45, 0.65) 65°01'N, 147°31'W

Brecciated schist and blue gouge between faults. In 1913 abandoned shaft and tunnel at prospect. May not be any gold.

McCarty (Alder Cr.)	Gold
Fairbanks district MF-413, loc. 52	Livengood (20.45, 2.05) 65°06'N, 147°14'W

Vein 12-15 ft wide with schist horses. Mineralization along vein walls and in horses; quartz in veins much fractured; little sulfide mineralization. Developed by tunnel 160 ft long and several crosscuts. Considering the amount of work it seems safe to assume that some gold is present.

McCarty (Henry Ford)	Antimony, Gold, Zinc
Fairbanks district MF-413, loc. 46	Livengood (19.55, 1.55) 65°04'N, 147°21'W

Quartz vein, as much as about 5 ft thick, contain gold, stibnite, jamesonite, arsenopyrite, and a little sphalerite. Henry Ford vein is displaced by fissure that contains America Eagle vein. One of the most productive gold mines in district; mined sporadically from 1911 to 1917 and practically continuously from 1927 to as recently as 1942; no data on amount of gold production; 1,225 tons of ore mined in 1929-30 averaged more than 1.04 oz/ton in gold. A few tons of antimony ore produced during World Wars I and II. More than 1,100 ft of underground workings. Includes references to: American Eagle,; Caribou; El Toro No. 3; Golden Eagle; Henry Ford; McCarty & Ewers (Gold Mining Co.); McCarty, L. J., and associates; McCarty Mining Co.; Schreiber. See also McCarty (Pioneer); some of references listed in Part B may apply to either mine.

McCarty (Pioneer)	Antimony, Gold
Fairbanks district MF-413, loc. 46	Livengood (19.55, 1.55) 65°04'N, 147°21'W

Quartz veins 1-2 ft thick, some with gouge along one or both walls, carry free gold and some stibnite. Other veins, 8-18 in. thick, carry much stibnite and jamesonite, Mine (mainly on Pioneer and Pennsylvania claims) produced gold worth $24,000 (about 1,160 fine oz) between 1910 and probably no later than 1917. A little stibnite ore also was produced; in 1942 a little remained on dumps. Workings consisted of several shafts (one was a 146-ft incline), at least one level of drifts, and raises. Includes references to: Black Warrior, Dorothy, Free Gold (Fairbanks Cr.), Harrietta, Henry Clay, Hinton, I.B., Iron Mask, Laughing Water, Leroy, Marigold, McCarty & Lawson, McDougall, Minnie Ha-Ha, Pennsylvania, Pioneer (Fairbanks Cr.), Russian Kid, War Eagle, Willie. See also McCarty (Henry Ford); some of references listed in Part B may apply to either mine.

Mizpah	Antimony, Gold, Lead, Manganese, Tungsten
Fairbanks district MF-413, loc. 48	Livengood (19.85, 1.6) 65°04'N, 147°19'W

Quartz vein from 3 in. to 3 ft thick carries gold, scheelite, stibnite, and, in a faulted zone, earthy wad and argentiferous galena. Ore richest in gold where stibnite is present. Gold and scheelite seem to be mutually exclusive, though in the same vein. Mine was worked 1912-18 and possibly (through Gilmore tunnel) after 1931. Several hundred feet of underground workings. A little scheelite produced in 1916; a little stibnite also was mined, probably at about the same time. No data on total gold production; ore reported to have averaged between $30 and $40 per ton (gold at $20.67). Includes references to Black Joe. See also: Gilmore tunnel, Ohio (Fairbanks Cr.).

Mohawk	Antimony, Gold
Fiarbanks district MF-413, loc. 29	Livengood (18.65, 1.2) 65°03'N, 147°28'W

Several quartz veins; ore contains gold, stibnite, pyrite, and arsenopyrite. Report of osmiridium by owner not confirmed. At least 2 shafts and some drifts. Gold ore (probably less than 100 tons total) mined in 1912 or earlier and 1916-18. Includes references to: Heilig & Creighton, Rose.

Moonlight	Gold
Fairbanks district MF-413, loc. 33	Livengood (18.85, 0.9) 65°02'N, 147°27'W

4-6 in. of crushed quartz and schist in fracture zone in quartzite schist and granite. Gold and unspecified sulfide minerals in part of zone in

schist; none in part in granite. Grab sample of possible ore on dump contained 0.158 oz/ton gold. Prospect pits and at least 170 ft of underground workings. No record of production. Includes references to: Moonshine, Sunlight, Sunshine, Twilight. See also Independence.

Moore-Sheldon	Antimony
Fairbanks district MF-413, loc. 37	Livengood (18.7, 1.35) 65°04'N, 147°28'W

Stibnite and pyrite in sulfide-bearing marble and calc-schist truncated by a crushed zone.

(Moose Cr.)	Gold
Rampart district	Livengood SW¼NE¼ quad.

Small amounts of placer gold reported.

Mother Lode (Dome Cr.)	Copper
Fairbanks district MF-413, loc. 15	Livengood (17.4, 1.0) 65°02'N, 147°37'W

Graphitic limestone with disseminated pyrite, chalcopyrite, and arsenopyrite. Exploration by 2 shafts 147 ft and 215 ft deep. Probably a minor and uneconomic deposit.

Mother Lode (Willow Cr.)	Antimony, Gold
Fairbanks district MF-413, loc. 37	Livengood (18.7, 1.35) 65°03'N, 147°28'W

Horizontal stibnite vein at contact between sericitized granite porphyry dike and mica schist. Very litte gold (no more than 0.05 oz/ton).

(Myrtle Cr.)	Gold
Tolovana district MF-413, loc. 64	Livengood (10.5. 9.35) 65°32'N, 148°33'W

Gold reported to have been mined in 1916 probably was reconcentrated from bench deposit of Livengood Cr. See also (Livengood Cr.).

Newsboy	Antimony, Copper, Gold, Zinc
Fairbanks district MF-413, loc. 37	Livengood (18.7, 1.35) 65°03'N, 147°28'W

Deposit consists of quartz veinlets, and veins 4-14 ft wide, in crushed,

iron-stained schist; minable over widths of 8-12 ft generally. Gold and stibnite are common, and chalcopyrite and sphalerite are present; considerable arsenopyrite and pyrite. Extensive workings on 5 levels to a depth of at least 350 ft. Production was probably large, but records were lost. Mined from about 1910 to 1913 and from 1930 to at least 1935, and possibly in other years; ore processed in their own mill. Tenor of gold ore reported to have been about 1.94 to 5.03 oz/ton; ore in Newsboy Extension said to have yielded about 0.73 oz/ton. Includes references to Newsboy Extension.

Nightingale, J.	Antimony, Lead, Silver
Fairbanks district MF-413, loc. 25	Livengood (18.35, 0.55) 65°01'N, 147°31'W

Massive silver-bearing galena with stibnite in stockwork and veins in an altered quartz diorite-quartz country rock. Considerable surface prospecting by pits and trenches; no known production. Discovered in about 1912; additional work in late 1960's.

(Nome Cr.)	Gold
Tolovana district MF-413, loc. 93	Livengood (21.35-21.7, 6.9) 65°22'N, 147°02'-147°05'W

Most of mining and all of dredging were in part of Nome Cr. in the Circle quad. Gold first found, 1910; ground about 15 ft deep. Coarse gold near mouth of Ophir Cr. Small-scale mining as recently as 1968. Bedrock quartzite and phyllite. Lode source of placer gold probably to south and southeast. See also (Nome Cr.) Circle quad.

North Star (Skoogy Gulch)	Antimony, Gold
Fairbanks district MF-413, loc. 30	Livengood (18.75, 0.9) 65°02'N, 147°28'W

Mineralized zone of faulted schist, altered dike rocks (probably granitic), and quartz veinlets is possibly 75 ft wide. Boulders containing arsenopyrite and stibnite on a dump. Zone has average gold content of probably less than 0.2 oz/ton. No record of production.

North Star Extension	Gold
Fairbanks district MF-413, loc. 30	Livengood (18.75, 0.9) 65°02'N, 147°29'W

Quartz veins 1-6 in. thick in quartzite schist cut by aplite and porphyritic granite dikes yielded gold worth $5,000 (about 240 fine oz). At old Central Star shaft was sunk 45 ft in schist near intrusive rocks, 175 ft of drifts run, and some ore mined and milled in 1916. About a ton of $35 ore (gold

at $20.67) mined from pits at some later time. Includes references to: Center Star, Central Star, Centre Star.

Ohio (Fairbanks Cr.) — Antimony, Gold, Lead, Silver

Fairbanks district — Livengood (19.85, 1.6)
MF-413, loc. 48 — 65°04'N, 147°19'W

Auriferous quartz veins, at least one of which follows a fault, are mainly in schist. Sulfide minerals include stibnite, galena (probably argentiferous), pyrite, and arsenopyrite. Oxidized material from one shaft is reported to have yielded a globule of silver. Mine developed by several shafts (total at least 200 ft) and some drifts. 350 tons of ore (tenor not known) milled in 1915. Includes references to: Connors & Stevens, Early Bird, Gilmore & Stevens, Gilmore & Stevenson, Gray Eagle, Mayflower. See also: Gilmore tunnel, Mizpah.

Old Glory — Tungsten

Fairbanks district — Livengood (11.95, 0.7)
MF-413, loc. 18 — 65°01'N, 149 35'W

Contact-metamorphic deposit of finely disseminated scheelite in quartz-mica schist and quartzite near tongue of larger granodiorite intrusive body; small granodiorite dike uncovered in prospect pit. Mineralized zone 3 to 4½ ft thick; channel sample contained 0.48% WO_3. Includes references to Leslie (& Hawks).

Old Smoky — Gold

Tolovana district — Livengood (10.85, 8.95)
MF-413, Loc. 4 — 65°30'N, 148°31'W

Auriferous arsenopyrite-quartz veins in ferruginous quartzite near porphyritic dikes contain gold (3-13 ppm as determined by atomic absorption; 1.6-7.0 ppm as determined by fire assay).

(Olive Cr.) — Chromite, Gold, Mercury, Silver, Tungsten

Tolovana district — Livengood (10.85-10.9, 8.7-8.95)
MF-413, locs. 4, 72 — 65°29'-65°30'N, 148°30'-148°31'W

Bedrock is largely slaty shale and sandstone; chert, argillite, and serpentinite near head; intruded by now highly altered felsic rocks. Cinnabar in altered rock; explored by about 270 ft of adits and tunnels; some material reported to run 20-30 lb mercury per ton. Some mercury probably was recovered (Hudson property). Nearby an altered and brecciated felsic rock in chert and argillite contains gold and a little silver; pyrite and arsenopyrite present. Creek was a major placer-gold producer 1914-63; probably little production 1964-77. Some gold on sandstone bedrock and

some on false bedrock 80 ft above true bedrock. Concentrates contain coarse gold, magnetite, ilmenite, plentiful cinnabar, picotite, limonite, scheelite, chromite, pyrite, arsenopyrite, and zircon. Includes references to: Hudson, Sunshine No. 2.

(Ophir Cr.) — Gold

Tolovana district — Livengood (21.35, 6.9)
MF-413, loc. 93 — 65°22'N, 147°05'W

Coarse gold (largest nugget about 0.21 oz) discovered in 1910. Sporadic small-scale mining and prospecting for the next several years. See also (Nome Cr.).

(Our Cr.) — Gold

Fairbanks district — Livengood (15.65-15.75, 0.45-0.55)
MF-413, locs. 77, 78 — 65°01'N, 147°52'-147°53'W

Very little mining; probably less than 250 oz gold produced. Production reported in 1908 only. Where mined depth to bedrock is 75 ft; much more father downstream and at mouth.

Parker — Chromite, Nickel

Tolovana district — Livengood (11.75, 8.8)
MF-413, loc. 6 — 65°30'N, 148°23'W

Nickel in silicates, spinels, alloys, and sulfides; and chromite in alpine-type serpentinites. Nickel assayed as much as 0.42%. Similar deposits occur along east-northeast-trending serpentinite belt between West Fork of Tolovana R. and Beaver Cr. Potential for a large low-grade nickel-chromium reserve. Poorly explored.

(Pedro Cr.) — Gold, Tin

Fairbanks district — Livengood (18.45-18.8, 0.4-0.95)
MF-413, loc. 89 — 65°00'-65°02'N, 147°28'-147°31'W

Site of original discovery of placer gold in district, 1902. Depth to bedrock 8-40 ft. Concentrates contain gold, magnetite, garnet, rutile, pyrite, and cassiterite. Mining was by drifting, open cuts, dredges; from 1903 to as recently as 1958. No mining reported, 1917-25. No data on total production; through 1910 was about 60,500 fine oz of gold. Data on mining frequently combined with those for Goldstream Cr. (Fairbanks quad.). Lode source of gold apparently in Pedro Dome area. See also (Pedro Cr.) Fairbanks quad.

Perrault	Antimony, Gold, Silver
Fairbanks district MF-413, loc. 48	Livengood (19.85, 1.6) 65°04'N, 147°19'W

3 or 4 nearly parallel quartz veins enclosing masses of schist, all more or less mineralized. Small amounts of gold and silver in limonitic material. Veinlets of stibnite in both quartz and schist.

Pioneer (Chatham Cr.)	Antimony, Gold, Zinc
Fairbanks district	Livengood (19.2, 1.55) 65°04'N, 147°24'W

An auriferous quartz vein about 3 ft thick and a thinner one that contains gold, stibnite, arsenopyrite, sphalerite, and pyrite intersect. Three shafts were sunk and some stopes blocked out. Returns on test shipments were from 1.45 to 4.35 oz/ton in gold. 200 tons of ore milled, 1912-13. First lode claim in Fairbanks district; staked as Blue Bell in 1903.

Plumbum	Gold(?)
Fairbanks district	Livengood (19.9, 1.6) 65°04'N, 147°18'W

Quartz vein 2 in. to 3 ft thick in schist. Practically barren of sulfides and no data on possible gold content.

(Quail Cr.)	Gold, Mercury, Silver, Tin, Tungsten
Rampart district MF-413, locs. 59, 60	Livengood (1.1-1.75, 6.3-6.45) 65°22'N, 149°45'-149°51'W

Prospecting and small-scale open-cut mining from 1898 to 1940, with possibly some inactive years; some mining between 1946 and 1959, but probably inactive since. Both creek and bench deposits; benches about 400 and 150 ft above creek as forks; workable placers on lower bench. No data on total amount of production; in 1898 and 1904 mining produced about 160 fine oz of gold. Bedrock is slaty shale, graywacke, phyllite, quartzite, and numerous felsic dikes and quartz veinlets. Dikes carry sulfides; one contained 0.52 oz/ton silver. Placer concentrates contain picotite, cassiterite, barite, scheelite, garnet, zircon, pyrite, rutile, and a minor amount of cinnabar. Lode source of gold probably in border zone around quartz monzonite intrusives of Wolverine Mtn.and other similar stocks and felsic dikes.

Queen	Gold(?)
Fairbanks district	Livengood (20.4, 2.0) 65°05'N, 147°14'W

Faulted quartz vein about 18 in. wide prospected by shallow shaft and 100-ft incline in 1913. No data on gold content, if any.

Quemboe Bros. — Antimony, Gold

Fairbanks district — Livengood (19.4, 1.5)
MF-413, loc. 44 — 65°04'N, 147°22'W

Fractured quartz vein cemented by sulfides in a soft schist country rock; hanging wall of vein is marked by a fault. Explored by a 60-ft shaft and 2 short drifts. Assays of vein show 1.09-1.55 oz/ton gold. Sulfides are stibnite, pyrite, and arsenopyrite. No record of production.

Rainbow — Gold, Lead, Tungsten, Zinc

Fairbanks district — Livengood (18.75, 0.9)
MF-413, loc. 30 — 65°02'N, 147°28'W

Schist and quartzite cut by granite dike; quartz vein about 18 in. thick follows a fault and is definitely younger than the granite. Minerals in vein include pyrite, arsenopyrite, galena, sphalerite, scheelite, and gold. Several hundred feet of underground workings. Mining, probably little more than 500 tons total production, 1911 to probably 1913. Sample across vein where 10 in. wide contained 1.11 oz/ton gold; sample across 2-in. band contained 10.26 oz/ton. Fineness about 839. See also: David, Whitman & Murray.

(Ranney Hollow) — Gold

Tolovana district — Livengood (10.8, 8.3) approx.
65°28'N, 148°31'W approx.

Next creek west of Steel Cr. Small amount of placer gold reported.

Rob (& Roy) — Antimony, Gold

Fairbanks district — Livengood (20.1, 1.75) approx.
MF-413, loc. 51 — 65°04'N, 147°17'W approx.

Shear zone 30 ft wide in schist. 2 mineralized zones in shear zone contain quartz, pyrite, gold, and stibnite. Also some irregular shoots and kidneys of stibnite. Rich gold ore discovered in 1914 and mined through early 1918. 100-ft shaft and at least 2 levels of drifts. Includes references to: Rob-Rye, Roy. See also Hi-Yu.

Robinson — Gold(?)

Fairbanks district — Livengood (18.45, 0.65)
65°02'N, 147°31'W

Fault breccia of highly altered quartz diorite. Explored by shallow cuts

and long trenches. No data on gold content, if any, or on possible presence of sulfides. Some of material on dumps is iron-stained. See also: I.X.L., (Little Eldorado Cr.).

(Ruth Cr.) — Antimony, Chromite, Gold, Mercury, Monazite, Silver, Tungsten

Tolovana district — Livengood (10.65-10.7, 9.1-9.25)
MF-413, locs. 3, 65 — 65°31'N, 148°31'-148°33'W

One of the major placer-gold-producing streams of the Livengood area; no data on amount of production. Gold at base of gravel and in top 2 ft of bedrock; paystreak 30-40 ft wide and 5-20 ft deep. Mining from 1916 to 1940's; small-scale mining at various times in 1960's and 1970's. Probably essentially mined out. Concentrates contain much scheelite, some magnetite, and minor amounts of cinnabar, chromite, stibnite, pyrite, arsenopyrite, and monazite. Bedrock is a mixture of many types of Devonian sedimentary rocks (including much black crystalline limestone) and a variety of intrusive rocks. On spur west of creek quartz veinlets carry pyrite, arsenopyrite, and gold; some samples showed as much as $12 a ton in gold and $2 a ton in silver (1916 prices). Many grains of chromite scattered through mineralized rock; some exposed by excavation about 1916. Stibnite vein exposed and reburied in placer cut. Some slightly auriferous breccia at a lode prospect found in late 1960's.

(Sawtooth Mtn.) — Antimony, Gold

Tolovana district — Livengood (3.45, 6.6)
MF-413, loc. 2 — 65°23'N, 149°31'W

Stibnite lode near top of mountain discovered and prospected in 1942-43 or possibly earlier. Exploration and small tonnage of ore mined in 1948. Mining continued in 1951-52. Some ore assayed 50% or greater Sb; minor amounts of arsenic and gold associated in parts. Stibnite was in roughly circular vertical pipe or vein about 10 ft in diameter; intruded slaty shale near contact with quartz monzonite pluton. Shaft on ore was 30 ft deep in July 1951, and reportedly was later deepened to about 90+ ft. High- and medium-grade stibnite ores were hand sorted (roughly 150 tons); operational difficulties and drop in price of antimony prevented marketing ore in 1952, but some may have been shipped since then.

Schaefer — Gold(?)

Fairbanks district — Livengood (19.95, 1.5)
65°04'N, 147°19'W

Flat-lying quartz stringer in steely dipping decomposed and iron-stained schist. 150-ft tunnel. No data on tenor of material. No record of any production.

Scrafford	Antimony, Gold, Lead, Silver
Fairbanks district MF-413, loc. 9	Livengood (16.75, 0.3) 65°00'N, 147°45'W

Shear zone 3-15 ft wide in quartz-mica schist contains iron-stained quartz, kidney-shaped masses of stibnite (largest mined was 40 ft x 11 ft x 6 ft), gold (best reported assay was about 0.2 oz/ton), argentiferous galena (one assay showed 8 oz/ton)., pyrite, and oxidation products. Principal antimony mine in district; about 1,600 tons of ore mined, mainly in 1946. Mine operated 1915-16, 1926, 1968-70, and possibly in a few other years. Mined from open cuts, adit 300 ft long, and 3 raises. In 1942 about 300 tons of low-grade (10-20 percent Sb) material was on dump. Gold and silver may have been recovered at some tine. Includes references to Black Eagle and to an unnamed stibnite prospect (Smith, 1913 (B 525), p. 196).

Silver Dollar	Gold(?)
Fairbanks district	Livengood (18.45, 0.65) 65°01'N, 147°31'W

Tiny quartz veinlets along joint and fracture planes in schist. A few cavities filled with limonitic material. No visible gold or sulfides. Adit driven 25 ft.

Sky High	Gold
Fairbanks district MF-413, loc. 43	Livengood (19.3, 1.7) 65°04'N, 147°24'W

Decomposed, iron-stained material may be a gossan; contains a little gold.

Solomon	Antimony
Fairbanks district MF-413, loc. 45	Livengood (19.45, 1.65) 65°04'N, 147°22'W

Quartz vein 3-4 in. thick contains much stibnite. No other data.

Soo (Mining Co.)	Antimony, Copper(?), Gold, Lead, Silver
Fairbanks district MF-413, locs. 23, 24	Livengood (18.15-18.25, 1.0) 65°02'N, 147°32'-147°33'W

Quartz veins in shear zones in schist near contact with Pedro Dome pluton contain free gold, stibnite, arsenopyrite, auriferous tetrahedrite, and galena; copper sulfides may be present. Fineness of a 50-oz sample of gold was 824½ Au and 149 Ag. Considerable stibnite, some in large lenses; columnar and fibrous masses, together with fine granular aggregates; 8 tons of stibnite ore left on dump when mine closed was sold in 1942. Mine development consisted of several shafts and extensive underground workings;

had own mill. Mining reported intermittently from 1910 to 1936. Gold produced in 1912-14 and 1925-31 was between 6,775 and 7,980 fine oz. Includes references to: Carnation, Chief, H & K, Hawkins, Heath & Kerns, La Rose, McGillvray & Ellis, Reliance (Mining Co.), Spaulding-Ronan-Cunningham, Stevens & Martin, Waterbury, Waverly, Wild Rose.

(Spruce Cr.) — Gold

Fairbanks district — Livengood (17.8, 1.3) approx.
MF-413, loc. 21 — 65°03'N, 147°36'W approx.

Lode said to carry about 0.58 oz/ton in gold; reported to have a shaft 150 ft deep; work in 1912 or earlier.

S.S. — Gold

Fairbanks district — Livengood (18.75, 0.9)
MF-413, loc. 30 — 65°02'N, 147°29'W

Gold prospect in schist close to intrusive rocks. Published data are for general area; prospect is assumed to be an auriferous quartz vein.

(Steamboat Pup) (Cr.) — Gold

Fairbanks district — Livengood (18.45, 0.5)
MF-413, loc. 89 — 65°00'N, 147°31'W

Mining in 1912-15 and probably other years. Small-scale open-cut mining in 1966-68. Amount of production not known; many data on both mining and production probably included with those for Pedro Cr. Pay streak said to be narrow. Placer ground is shallow in lower to middle part of stream course where the mining took place. See also (Pedro Cr.).

(Steel Cr.) — Gold(?), Tungsten

Tolovana district — Livengood (11.5, 8.25) approx.
MF-413, loc. 74 — 65°28'N, 148°25'W approx.

No evidence of appreciable mining or prospecting, but there are reports of considerable wolframite in a placer concentrate. Some placer gold probably present also, as it occurs in a similar geologic setting in the next small creek to the west. Bedrock in area is Cretaceous graywacke and shale, hornfelsic near the small felsic dikes that are poorly exposed on hills just west of the head of the creek.

(Steese Highway, Mile 17.5) — Gold

Fairbanks district — Livengood (19.65, 0.7)
65°01'N, 147°29'W

Small quartz diorite pluton exposed in road cuts. South border is strongly

sheared, altered, and iron stained. Vein quartz, 0.5 ft thick, in gouge zone; gold values of as much as 2.7 ppm in altered quartz diorite adjacent to vein.

Steil	Antimony
Fairbanks district MF-413, loc. 37	Livengood (18.7, 1.35) 65°04'N, 147°28'W

Narrow quartz veins in greenstone(?) contain some stibnite and less pyrite. No data on possible gold content. Includes reference to Steel.

Sunrise (Cleary Cr.)	Antimony, Gold(?)
Fairbanks district MF-413, loc. 40	Livengood (19.0, 1.6) 65°04'N, 147°26'W

Veins of quartz and gouge with included schist. No data on gold content, if any. Material on dump includes quartz with stibnite and oxidation products. Short adit and drift. See also Cunningham.

Sunrise (Last Chance Cr.)	Gold(?)
Fairbanks district	Livengood (18.7, 1.35) 60°03'N, 147°28'W

Quartz on dumps by pits probably came from quartz stringers in schist. No data on gold content, if any.

Thompson	Gold
Fairbanks district MF-413, loc. 28	Livengood (18.55, 1.3) 65°03'N, 147°29'W

Quartz veins in mica and graphite schists; both veins and wall rocks contain gold. Shallow shaft and 100-ft adit with crosscut. No record of production. See also: Dome View, Mizpah.

Thompson & Burns	Gold
Fairbanks district MF-413, loc. 30	Livengood (18.75, 0.9) 65°02'N, 147°29'W

Reddish-yellow brecciated schist and dike rock on dump near adit driven along fracture zone. Similar rock in neighborhood contains a very small amount of gold (about 0.04 oz/ton).

Thrift	Gold
Fairbanks district MF-413, loc. 12	Livengood (17.35, 0.9) approx. 65°02'N, 147°40'W approx.

Some ore from a quartz vein reported to have been mined and milled before 1912. Yielded about 0.53 oz/ton in gold.

Tolovana (Mining & Milling Co.)	Antimony, Gold, Silver, Tungsten
Fairbanks district MF-413, loc. 38	Livengood (18.85, 1.5) 65°04'N, 147°27'W

Lode is stringers or veinlets of quartz cutting silicified schist. Mineralization is in quartz and schist and consists of gold, stibnite, arsenopyrite, scheelite, and pyrite. Analysis of a sample of gold showed fineness of 792 Au and 180 Ag. Free gold is visible in both quartz and stibnite. Some of stibnite is bladed, some massive, and some disseminated. Mine had extensive workings; 900 ft still accessible in 1949. Mining reported spasmodically from 1910 to 1931. No data on total production; most was probably before 1916. Includes references to: Scheuyemere, Tolovana-Stibnite, Willow Creek-Tolovana Mining Co. See also: Chechako No. 1, Johnson.

(Tolovana R.)	Gold
Tolovana district	Livengood Central ¼ quad.

All references to Tolovana R. are almost certainly to tributaries, including Ester, Livengood, Olive, and Wilbur Creeks. See also: (Ester Cr.), (Livengood Cr.), (Olive Cr.), (Wilbur Cr.).

(Too Much Gold Cr. divide)	Gold
Fairbanks district	Livengood (19.8, 1.75) 65°04'N, 147°20'W

Thin quartz veins and silicified mica schist wall rock contain as much as 3.96 ppm Au.

(Trail Cr.)	Gold(?)
Tolovana district	Livengood NE¼SE¼ quad.

Encouraging prospects for placer gold reported, 1910. Location on creek not given.

(Treasure Cr.)	Gold
Fairbanks district MF-413, locs. 8, 81	Livengood (16.6-16.95, 0.4-0.85) 65°00'-65°02'N, 147°43'-147°46'W

Gold discovered, 1906, and drift mined until about 1913. Deposit permanently frozen, 80-200 ft deep, about 7 ft thick, and as much as 225 ft wide.

Production more than 12,000 oz; possibly as much as 24,000 oz. Fineness about 860. Lode gold (no other data given) near mouth of a tributary.

(Troublesome Cr.) — Gold, Lead, Mercury, Tin

Rampart district — Livengood (1.8-2.95, 6.35-8.9)
MF-413, locs. 61, 62 — 65°22'-65°30'N, 149°36'-149°45'W

Some mining about 1912 or earlier and probably until about 1918; no activity in 1931; records of mining are scanty. Creek appeared long inactive in 1969. Concentrate from just below mouth of Union Cr. (MF-413, loc. 62) contained barite, iron minerals, picotite, pyrite, cinnabar, garnet, galena, zircon, and cassiterite. Bedrock is chiefly Paleozoic sedimentary and metasedimentary rocks; pegmatitic granite cut by creek just above Union Cr. Creek drains quartz monzonite plutons and associated dikes in the Wolverine and Sawtooth Mountains area.

(Twin Cr.) — Gold, Tin

Fairbanks district — Livengood (18.8, 0.95)
MF-413, loc. 89 — 65°02'N, 147°28'W

Bedrock is quartzite schist and porphyritic granite. Most of placer ground was shallow (12 ft is deepest mentioned). Cassiterite common in concentrates. Mined sporadically from 1903 to 1927. No data on total production; as of 1910 was about 5,800 fine oz of gold. See also Burnet (Twin Cr.).

U.S. Smelting, Refining & Mining Co. — Bismuth, Gold, Tin, Tungsten

Fairbanks district — Livengood
SE¼SE¼ quad.

Major placer-gold operator of Farbanks district (production 1929-48 was more than 2,850,000 fine oz of gold) with extensive operations (mainly dredging) on Cleary, Dome, Fairbanks, Fish, Little Eldorado, and Pedro Creeks and Chatanika R. Began preparatory work in 1925 and dredging in 1928; dredges operating in 1956. Channel samples indicate that dump of all dredge concentrates contains 0.1% WO_3, 2.23% Sn, and 0.01% Bi. The company also operated McCarty (Henry Ford) lode mine 1937 to 1940 or later. Includes references to Fairbanks Exploration Co. Alaska Gold Corp. now is the Alaskan operating company for all former operations and properties of U.S. Smelting, Refining & Mining Co. See also: (Chatanika R.), (Cleary Cr., near Fairbanks), (Dome Cr.), (Fairbanks Cr.), (Fish Cr.), (Little Eldorado Cr.), McCarty (Henry Ford), (Pedro Cr.), U.S. Smelting, Refining & Mining Co. (Fairbanks quad.).

(Vault Cr.) — Gold

Fairbanks district — Livengood (16.85-17.2, 0.7-1.5)
MF-413, locs. 79, 80, 83 — 65°02'-65°04'N, 147°41'-147°44'W

Bedrock probably all schist. Placers as much as about 200 ft deep. Near mouth in Chatanika Flats alluvium is 319 ft thick; gold on false bedrock at 160 ft. Gold on upper creek coarse; 1/3 of pieces worth a dollar or more (gold at $20.67). Most of mining before World War II was by drifting. Mining from 1906 to as recently as 1940. Gold production, including that from tributaries, through 1924 was about 113,000 fine oz. No data on composition of concentrates. See also (Chatanika R.).

Vetter(-Shelden) — Antimony, Gold, Silver(?)

Fairbanks district — Livengood (19.3, 1.7)
MF-413, loc. 43 — 65°04'N, 147°22'W

Fissure vein with horses of iron-stained brecciated quartz and silicified schist cuts schistose quartzite and quartz-mica schist; contains sulfides (stibnite, jamesonite, and questionably identified arsenopyrite, freibergite, and pyrite) and gold. An unstated amount of gold and possibly some antimony production in 1960's from open cut and shallow shaft. Minor exploration in 1970's.

Wackwitz (Cleary Summit) — Antimony, Gold, Lead

Fairbanks district — Livengood (19.0, 1.2)
MF-413, loc. 36 — 65°03'N, 147°26'W

Quartz veins and mineralized zones in quartz-mica schist contain stibnite, galena, and jamesonite. Gold present (probably determined by assay). An unstated amount of antimony ore has been produced.

Wackwitz (Wyoming) — Antimony, Gold, Tungsten

Fairbanks district — Livengood (19.0, 1.55)
MF-413, loc. 39 — 65°04'N, 147°26'W

Quartz veins as much as 2 ft thick contain gold and kidneys of stibnite, near which gold values are highest; scheelite in and adjacent to veins and as a replacement shoot in limestone. Bedrock is quartz-mica schist, quartzite, and thin limestone beds. Main (Wyoming) vein displaced 100 ft to right by a fault. Gold (no data on production other than several thousand dollars worth) and a little scheelite concentrate produced. Mining or development work reported sporadically from 1909 to 1942; may have been some in early 1950's. Well over 1,500 ft of workings on 3 levels. Includes references to: Alaska Mining & Development Co., Goessman, Tanana Quartz (&) Hydraulic (Mining Co.), Wyoming (Quartz Mining Co.).

(Walnut Cr.) — Gold

Fairbanks district — Livengood (20.75-20.85, 1.8-1.9)
MF-413, loc. 91 — 65°05'N, 147°11'W

Coarse gold (one nugget containing about 2.2 fine oz reported) recovered from shallow ground, 1906-08, 1912. Production 1906-08 was about 420 fine oz. Fineness of gold was 822. Any other production probably included with that from Fairbanks Cr.

(Washington Cr.) — Gold(?)

Tolovana district — Livengood
SW¼SE¼ quad.

Prospecting, 1909; no confirmed positive results; some pay reported.

White Elephant — Lead, Silver

Fairbanks district — Livengood (18.95, 1.0)
MF-413, loc. 34 — 65°02'N, 147°26'W

Argentiferous galena accompanied by a little pyrite and quartz in flat lenses parallel to foliation of schist. Was some mining before 1913; presumably silver and possibly lead were sold. Developed by a 20-ft adit.

Whitehorse — Antimony, Gold, Lead

Fairbanks district — Livengood (19.95, 1.7)
MF-413, loc. 49 — 65°04'N, 147°18'W

Auriferous quartz vein; footwall contains brecciated mass of rock cemented by stibnite and galena. Porphyritic granite dikes nearby. Some ore mined from pit and probably milled in about 1913.

Whitman & Murray — Gold

Fairbanks district — Livengood (18.75, 0.9)
MF-413, loc. 30 — 65°02'N, 147°28'W

Ore milled in 1910. 2 shafts, 400 ft of drifts and crosscuts. This is the only reference to this property by this name; it may well have been known by another name in later years. See also Rainbow.

(Wilbur Cr.) — Gold

Tolovana district — Livengood (11.95, 8.2-8.25)
MF-413, loc. 75 — 65°27'-65°28'N, 148°22'W

Gold prospects found in 1915, 1921. Mining probably began in about 1926 and continued on a small scale into the 1940's, and sporadically until at least 1968. Gold content probably low. Overburden of as much as 75-100

ft of muck ½ mi above mouth, the current (1976) upstream limit of mining. Bedrock is Cretaceous shale, siltstone, and graywacke; small quartz monzonite body near head of creek and possibly some felsic dikes.

(Wildcat Cr.) — Gold

Fairbanks district — Livenggod (16.9, 0.6)
MF-413, loc. 82 — 65°01'N, 147°43'W

Low-grade gold-bearing gravels for about half a mile above mouth. A little placer mining reported, 1908-15.

(Wolf Cr.) — Gold

Fairbanks district — Livengood (19.15-19.4, 1.85-1.9)
MF-413, loc. 88 — 65°05'N, 147°23'-147°25'W

Mining started in 1903 continued until 1915; also active 1937-62; possibly some later work. Gold is bright; some is very rough. Found in base of gravel and top 2 ft of bedrock. Ground 4-10 ft deep near mouth and as much as 60 ft deep farther upstream. Production 1903, 1908-10 was about 1,600 fine oz; fineness about 864. Lode source probably in veins in headward part of creek. Placers probably largely mined out.

(Willow Cr., near Livengood) — Gold

Rampart district — Livengood (11.2, 11.1) approx.
MF-413, loc. 63 — 65°38'N, 148°24'W approx.

Placer gold mining reported, 1924. In Hess Cr. basin.

(Wolf Cr. divide) — Gold

Fairbanks district — Livengood (19.55, 1.55)
65°04'N, 147°21'W

Quartz veins and altered schist wall rock in old prospect trenches carry as much as 2.87 ppm Au.

(Wolverine Mtn.) — Antimony

Rampart district(?) — Livengood (0.9, 5.9) approx.
MF-413, loc. 1 — 65°20'N, 149°53'W approx.

Stibnite-bearing mafic dike. Occurrence may be on part of mountain in Hot Springs district.

Woods — Antimony, Gold, Lead

Fairbanks distruct — Livengood (15.1, 11.25)
MF-413, loc. 16 — 65°02'N, 147°35'W

Explored about 1911; no record of production. Quartz veins carry free gold, arsenopyrite, pyrite,, stibnite, and galena. Veins pinch and swell, some massive, some shattered and sugary. Clay gouge, iron and manganese staining. Includes references to: Alpha, Omega. See also: Independence, Scrafford.

Yellowjacket	Gold(?)
Fairbanks district	Livengood (19.95, 1.7) approx. (?) 65°04'N, 147°18'W approx. (?)

Report of some winter work, probably in 1914-15. Ore may have been milled. See also Whitehorse.

Zimmerman (Twin Cr.)	Gold
Fairbanks district MF-413, loc. 31	Livengood (18.65, 0.7) 65°01'N, 147°29'W

Silicified crushed zone SW of a shear zone with 11 ft of clay gouge contains a little arsenopyrite and as much as 0.08 oz/ton gold. Quartz diorite on other side of shear zone is barren. Exposed in placer cut and probably never developed.

Zimmerman (near Twin Cr.)	Gold, Silver
Fairbanks district MF-413, loc. 33	Livengood (18.85, 0.9) 65°02'N, 147°27'W

Sulfide-bearing material contains as much as $12 in silver and $4 in gold per ton (1913 prices). May be on continuation of lode of Rainbow mine.

Unnamed occurrence	Asbestos
Tolovana district	Livengood (16.05, 11.8) 65°39'N, 147°47'W

Slightly sheared, blocky, dark-green serpentinite with minor fiber veinlets (light green on weathered sheared surface).

Unnamed occurrence	Chromite
Tolovana district MF-413, loc. 7	Livengood (15.9, 11.25) 65°37'N, 147°48'W

Scree rock sample is sheared black chromitite; contains 12.8% Cr.

Unnamed occurrence	Copper, Lead, Zinc
Tolovana district	Livengood (21.0, 16.5) 65°55'N, 147°04'W

Zinc, copper, and lead oxides in quartz veins cutting poorly exposed calcarenite-argillite unit bounded on either side by dolomite. No mineralized material in place; smithsonite in a boulder train on a west-facing ridge. Occasional pods and fracture coatings of sulfides with malachite and zinc oxide.

Unnamed occurrence	Lead, Zinc
Tolovana district	Livengood (20.15, 16.3) 65°54'N, 147°11'W

Minor traces of galena and sphalerite in calcarenite.

Unnamed occurrence	Manganese
Tolovana district	Livengood (14.45, 15.8) 65°53'N, 147°59'W

Disseminated manganite in quartz groundmass; chert breccia filling with some clasts altered to a claylike material. Black botryoidal mineral (presumably psilomelane) in cross-cutting quartz veins.

Unnamed occurrence	Zinc
Tolovana district	Livengood (18.75, 16.1-16.2) 65°54'N, 147°23'W

"Traces of zinc oxide were found in brecciated exposures of the Tolovana Limestone."

Synonyms, Owners, Operators, and Claim Names

Alabama -- see Cleary Hill, (Vault Cr.)
Alaska Arctic Resources, Inc. -- see Nightingale, J.
Alaska Exploration Co. -- see (Fairbanks Cr.)
Alaska Mining & Development Co. -- see Wackwitz (Wyoming)
Algo Co. -- see Hi-Yu
Alpha -- see Woods
American Eagle -- see McCarty (Henry Ford)
Amy -- see Parker
Anchor -- see Chechako No. 1
Anderson (and associates) -- see Busty Belle
Anderson & Birch -- see Hoover
Anderson-Wackwitz -- see Busty Belle
Anna -- see Anna-Mary
Antimony -- see McCarty (Pioneer)
Apex -- see David
Arctic Alaska Fisheries & Enterprises, Inc. -- see Homestake
Aroostook -- see Perrault
Baltic -- see (Livengood Cr.)
Balzimer -- see Homestake
Bank -- see (Vault Cr.)
Barry -- see (Livengood Cr.)
BECS Corp. -- see Homestake
Big Chief -- see Soo
Big Jim -- see Jackson
Big Lead -- see North Star (Skoogy Gulch)
Bill Taft -- see Butler & Petree
Birch (&) Anderson -- see Hoover
Bishop -- see Whitehorse
Black Eagle -- see Scrafford
Black Joe -- see Mizpah
Black Warrior -- see McCarty (Pioneer)
Blue Bell -- see Pioneer (Chatham Cr.)
Blue Lead -- see McCarty (Pioneer)
Blue Moon -- see Pioneer (Chatham Cr.)
Bob -- see Newsboy
Bostrum & Wickstrom -- see (Wilbur Cr.)
B.P. -- see Butler & Petree
Bunnell -- see Woods
Burns -- see Chatham
Busch & Anderson -- see Hoover
California -- see Cleary Hill
Caribou -- see McCarty (Henry Ford)
Carlisle -- see Cleary Hill
Carnation -- see Soo
Center Star -- see North Star Extension
Central Star -- see North Star Extension
Centre Star -- see North Star Extension
Chatam -- see Chatham
Chatham Creek -- see Chatham
Chatham Creek Dredging Co. -- see (Chatham Cr.)

Chatham Gold Dredging Co. -- see (Chatham Cr.), (Cleary Cr. near Fairbanks)
Chatham Mining Co. -- see Chatham
Chief -- see Scrafford, Soo
Christmas -- see (Dome Cr.)
Christina -- see Homestake
Cleary -- see Cleary Hill
Cleary Extension -- see Newsboy
Cleary Hill Alaska Gold Mines Co. -- see Cleary Hill, Wackwitz (Wyoming)
Cleary Hill (Alaska) Mining Co. -- see Cleary Hill
Colby -- see Chatham
Colorado -- see Cleary Hill
Connors & Stevens -- see Gilmore tunnel, Ohio (Fairbanks Cr.)
Cottonwood -- see Busty Belle
Crane -- see (Olive Cr.)
Creighton (& Heilig) -- see Mohawk
Crites & Feldman -- see Hi-Yu
"Cross vein" -- see Excelsior
Dahl & Co. -- see (Gertrude Cr.)
Day Dawn -- see (Dome Cr.)
Deep Channel -- see (Livengood Cr.)
Diamond -- see (Cleary Cr., near Fairbanks)
Discovery -- see Pioneer (Chatham Cr.)
Dorando -- see Hi-Yu
Dorothy -- see McCarty (Pioneer)
Duncan -- see (Livengood Cr.)
Eagan (and associates) -- see Fagan (Twin Cr.)
Eagle -- see Goodwin, (Livengood Cr.), Scrafford
(Eagle Cr.) -- see Goodwin
Early Bird -- see Ohio (Fairbanks Cr.)
Ebbert -- see Homestake
Eldorado (near Fairbanks) -- see Chechako No. 1, (Little Eldorado Cr.)
Eldorado (near Livengood) -- see (Livengood Cr.)
(Eldorado Cr.) -- see (Little Eldorado Cr.)
Eldorado Creek Mining Co. -- see Chechako No. 1
Eldorado Mining (& Milling) Co. -- see Chechako No. 1, Johnson
Elsie -- see Anna-Mary
El Toro No. 3 -- see McCarty (Henry Ford)
Equity Assn. -- see Soo
Estorffe and Radak -- see (Ruth Cr.)
Etna -- see (Livengood Cr.)
Fairbanks -- see Homestake
Fairbanks Exploration Co. -- see U.S. Smelting, Refining & Mining Co.
Fairbanks Gold Dredging Co. -- see (Fairbanks Cr.)
Fairbanks Gold Mining Co. -- see (Fairbanks Cr.), (Twin Cr.)
Fairhaven & Foss -- see McCarty (Henry Ford)
Falls -- see (Lillian Cr.), (Ruth Cr.), (Wilbur Cr.)
Falls & Barker -- see (Lillian Cr.)
Farrell and associates -- see (Idaho Bar)
Faulkner -- see North Star (Skoogy Gulch), North Star Extension, White Elephant

Fay -- see Chatham
Feldman -- see Hi-Yu
Fish -- see (Livengood Cr.)
Fish Creek Mining Co. -- see (Fish Cr.)
Fiske Bros. & Wickstrom -- see (Amy Cr.)
Foster & Hungerford -- see Alaska, Empire
Franklin -- see Chechako No. 1, Mohawk, Woods
Franklin and associates -- see Old Glory
Franklin Lode -- see Woods
Franklin No. 2 -- see (Livengood Cr.)
Frederichs -- see Gilmer
Free Gold (Cleary Cr.) -- see Cleary Hill
Free Gold (Fairbanks Cr.) -- see McCarty (Pioneer)
Freeman & Scharf -- see Busty Belle
Friederich -- see Fredericks
Fursteneau -- see Alaska
Gan -- see (Livengood Cr.)
Genki -- see Alaska
Georgia -- see (Our Cr.)
Gibbs -- see Hi-Yu
Gilmore & Stevens -- see Gilmore tunnel, Ohio (Fairbanks Cr.)
Gilmore & Stevenson -- see Gilmore tunnel, Ohio (Fairbanks Cr.)
Gladstone -- see Alaska
Glen Gulch Mining Co. -- see (Gertrude Cr.)
Goepfert Galena -- see Goepfert
Goessman -- see Wackwitz (Wyoming)
Gold Dollar -- see (Livengood Cr.)
Golden Eagle -- see McCarty (Henry Ford)
Goldstone -- see Alaska
(Goldstream Cr.) -- see (Hess Cr., South Fork)
Goyett -- see Hidden Treasure (near Fairbanks), Mohawk
Goyett, Boyd & Shaw -- see Mohawk
Gray Eagle -- see Ohio (Fairbanks Cr.)
Greenback -- see Mohawk
Gustafson Bros. -- see Cleary Hill, Wackwitz (Wyoming)
Ha-Ha -- see McCarty (Pioneer)
Haley & Magnussen -- see (Wilbur Cr.)
H & K -- see Soo
Hanot Bros. -- see (Pedro Cr.)
Hard Luck -- see (Vault Cr.)
Hard Scrabble -- see (Chatanika R.)
Harrais -- see Independence, Moonlight
Harrietta -- see McCarty (Pioneer)
Harris -- see Independence
Hawkins (and associates) -- see Soo
Healy -- see (Goodluck Cr.)
Heath & Kerns -- see Soo
Heilig & Creighton -- see Mohawk
Helen S. -- see Hi-Yu
Helen W. -- see Gilmer
Henry Clay -- see McCarty (Pioneer)

Henry Ford -- see McCarty (Henry Ford)
Hess & Burnet(t) -- see Jackson
Hess, Douglas & Lowe -- see (Gertrude Cr.)
Hidden Treasure (near Livengood) -- see (Livengood Cr.)
Hindenburg -- see Markovich
Hinton -- see McCarty (Pioneer)
Holke -- see Pioneer (Chatham Cr.)
Homestead -- see (Vault Cr.)
Hope -- see (Chatanika R.), Homestake
Horton & Solomon -- see Homestake
Hudson -- see (Olive Cr.)
I.B. -- see McCarty (Pioneer)
Idaho -- see Cleary Hill, (Little Eldorado Cr.)
Idaho Mining & Leasing Co. -- see (Little Eldorado Cr.)
Inspiration -- see Soo
Insurgent -- see Hi-Yu
Iron Mask -- see McCarty (Pioneer)
Isabel -- see (Vault Cr.)
Isabella -- see (Vault Cr.)
Italy -- see (Livengood Cr.)
Jack -- see Newsboy
Jamesonite -- see Homestake, McCarty (Pioneer)
Johnson & Martin -- see Johnson
Jupiter-Goldstone -- see Alaska
Jupiter-Mars (Consolidated Mining Co.) -- see Alaska
Jurich -- see (Lillian Cr.)
Katherine -- see Emma
Kawilita -- see Homestake
Key -- see Anna-Mary
Keystone (Mines, Inc.) -- see Hi-Yu, Homestake, McCarty (Henry Ford), McCarty (Pioneer
La Rose -- see Soo
Last Chance -- see Dome View
(Last Chance Cr.) -- see (Little Eldorado Cr.)
Laughing Water -- see McCarty (Pioneer)
Le Boyteau -- see (Goodluck Cr.)
Leindecker -- see Branholm-Jenkins
Lemon -- see McCarty (Alder Cr.)
Leroy -- see McCarty (Pioneer)
Leslie (& Hawks) -- see Old Glory
Lietrim -- see (Livengood Cr.)
Lillian -- see (Lillian Cr.)
Lime -- see McCarty (Alder Cr.)
Little Jim -- see Jackson
Livengood & Hudson -- see (Gertrude Cr.), (Lillian Cr.), (Livengood Cr.), (Olive Cr.), (Ruth Cr.)
Livengood Cinnabar Co. -- see (Olive Cr.)
Livengood Placers, Inc. -- see (Livengood Cr.)
Luckman & Co. -- see (Amy Cr.)
Luckman & West -- see (Amy Cr.)
(Lucky Cr. (Gulch) -- see (Ester Cr.), (Goodluck Cr.)
Lucky Lad -- see Newsboy

Mahan -- see (Livengood Cr.)
Mandich (& Jurich) -- see (Lillian Cr.)
Marcovich -- see Markovich
Marietta -- see (Livengood Cr.)
Marigold -- see McCarty (Pioneer)
Markovitch -- see Markovich
Mars-Emerald -- see Alaska
Martin -- see Johnson
Mary -- see Anna-Mary, Woods
Mayflower -- see Ohio (Fairbanks Cr.)
Mazeppa -- see Butler & Petree
McCarthy (Alder Cr.) -- see McCarty (Alder Cr.)
McCarthy (Fairbanks Cr.) -- see McCarty (Pioneer)
McCarty & Ewers (Gold Mining Co.) -- see McCarty (Henry Ford)
McCarty & Lawson -- see McCarty (Pioneer)
McCarty, L. J., and associates -- see McCarty (Henry Ford)
McCarty Mining Co. -- see McCarty (Henry Ford)
McDougall -- see McCarty (Pioneer)
McGillvray & Ellis -- see Soo
McNeil (& Huddleson) -- see Branholm-Jenkins
(Mike Hess Cr.) -- see (Hess Cr.)
Miller -- see Chatham, Griffin
Million Dollar Corp. -- see Thompson & Burns
Mines Development Syndicate -- see (Livengood Cr.)
Minnie -- see Perrault
Minnie Ha-Ha -- see McCarty (Pioneer)
Mintti -- see Markovich
Moonshine -- see Moonlight
Muchano -- see Gilmer
Muir -- see North Star (Skoogy Gulch)
Murphy -- see (Fairbanks Cr.)
Mynnti -- see Markovich
Nars (, Anderson & Gibbs) -- see Hi-Yu
Nelson -- see (Livengood Cr.)
Nerich, Jackson & Faulkner -- see White Elephant
Nevada -- see (Vault Cr.)
New Deal -- see Hidden Treasure (near Fairbanks)
Newsboy Extension -- see Newsboy
Newsboy Mining Co. -- see Emma, Newsboy
New York -- see Cleary Hill
Nickaloff -- see Robinson
Niggerhead -- see (Dome Cr.)
Nightingale, G. -- see Homestake
Nirige & Hershberger -- see Rainbow
Nordale (Corp.) -- see Homestake
Northern Commercial Co. -- see David
North Star (Alder Cr.) -- see McCarty (Alder Cr.)
North Star (Chatham Cr.) -- see Pioneer (Chatham Cr.)
Ohio (Little Eldorado Cr.) -- see Markovich
Oklahoma -- see Wackwitz (Wyoming)
Olive Creek Mines -- see (Olive Cr.)

Omega -- see Woods
Oregon -- see (Vault Cr.)
Oro Fino -- see Newsboy
Oro Grande -- see Newsboy
Ott & McGowon -- see Mizpah
Our Jim -- see Jackson
Overga(a)rd -- see Emma
Paupers Dream -- see Cleary Hill
Pennsylvania -- see McCarty (Pioneer)
Pilgrim -- see Newsboy
Pinnacle -- see Cheyenne
Pinska -- see Tolovana
Pioneer (Fairbanks Cr.) -- see McCarty (Pioneer)
Pioneer Co. -- see Pioneer (Chatham Cr.)
Pioneer Discovery -- see Pioneer (Chatham Cr.)
Pioneer (Quartz) Mining Co. -- see Pioneer (Chatham Cr.)
Poz & Contardi -- see Markovich
Quinn -- see Scrafford
Radak -- see (Ruth Cr.)
Ready Bullion -- see (Livengood Cr.)
Recorder -- see (Dome Cr.)
Red -- see (Livengood Cr.)
Reese -- see Butler & Petree
Reliance (Mining Co.) -- see Soo
Rex (Mining Co.) -- see Butler & Petree
Rexall -- see Homestake
Rhoades-Hall -- see Cleary Hill
Rhoads (&) Hall -- see Cleary Hill
Rhodes (&) Hall -- see Cleary Hill
Roads & Hall -- see Cleary Hill
Robinson & Drouin -- see David
Robinson & Lieman -- see Hoover
Rob-Rye -- see Rob & Roy
Rock Run -- see Dome View
Rogach -- see Markovich
Rogash -- see Markovich
Rose -- see Mohawk, Pioneer (Chatham Cr.)
Roth & Maddocks -- see David
Rowley-Shumeff -- see Nightingale, J.
Roy -- see Rob & Roy
(Ruby Cr.) -- see (Ruth Cr.)
Russian Kid -- see McCarty (Pioneer)
Saucy -- see Hi-Yu
Scheuyemere -- see Tolovana
Scheuyemeress -- see Tolovana
Schreiber -- see McCarty (Henry Ford)
(Seattle Cr.) -- see Old Glory
Shakespeare -- see (Dome Cr.)
Sierra -- see (Vault Cr.)
Silva (& Co.) -- see (Livengood Cr.)
Silver Fox -- see Busty Belle

Silver King -- see Jackson
Silver Ridge Mining Co. -- see Scrafford
Silvertone -- see Busty Belle
Snow Drift -- see Cleary Hill
Somerville -- see (Livengood Cr.)
Spall & Livengood -- see (Livengood Cr.)
Spaulding (& Brumbaugh) -- see Soo
Spaulding-Ronan-Cunningham -- see Soo
Stadelman -- see (Amy Cr.), (Livengood Cr.)
Standard Mines, Ltd. -- see (Livengood Cr.)
Steel -- see Steil
Stevens -- see Woods
Stevens & Martin -- see Soo
Stibnite -- see Johnson
Stier -- see (Chatanika R.)
Summit -- see Hi-Yu
Sunlight -- see Moonlight
Sunny -- see (Livengood Cr.)
Sunnyside (near Fairbanks) -- see Hi-Yu
Sunnyside (near Livengood) -- see (Livengood Cr.)
Sunrise (Treasure Cr.) -- see Scrafford
Sunshine -- see Moonlight
Sunshine No. 2 -- see (Olive Cr.)
Tanana Quartz (&) Hydraulic Mining Co. -- see Chatham, Wackwitz (Wyoming)
Tanana Quartz Mining Co. -- see Chatham
Tanana Valley Gold Dredging Co. -- see (Fish Cr.)
Teddy R. -- see Hi-Yu
Texas -- see Cleary Hill
Tolovana-Stibnite -- see Tolovana
Tonaskate -- see (Treasure Cr.)
Triangle -- see (Livengood Cr.)
Twilight -- see Moonlight
Twin Lode -- see Independence
Union -- see I.X.L.
V -- see Cleary Hill
Vergil -- see Jackson
Vernetti -- see Scrafford
Vetter Bros. -- see Vetter(-Shelden)
Victor -- see (Vault Cr.)
Victoria -- see (Treasure Cr.)
Virginia -- see (Livengood Cr.)
Wackowitz Bros. -- see Dome View, Wackwitz (Wyoming)
Wackowitz Bros. & Nelson -- see Wackwitz (Wyoming)
Wackwitz Bros. -- see Dome View, Wackwitz (Wyoming)
Wackwitz, F. -- see Alaska
Wall -- see (Amy Cr.)
War Eagle -- see McCarty (Pioneer)
Warren -- see Anna-Mary
Washington -- see (Our Cr.)
Waterbury -- see Soo
Waverly -- see Soo

Westonvich -- see Chechako No. 1
Westonvik -- see Chechako No. 1
Westonvitch -- see Chechako No. 1
Wilcox -- see Gilmer
Wild Rose -- see Soo
Willie -- see Homestake, McCarty (Pioneer)
Willow Creek -- see Tolovana
(Willow Cr., near Fairbanks) -- see Johnson
Wolf (Too Much Gold Cr.) -- see Hi-Yu
Wolf (Wolf Cr.) -- see Homestake
Wolverine -- see Jackson
Wyoming (Quartz Mining Co.) -- see Cleary Hill, Wackwitz (Wyoming)
Yankee Doodle -- see Hi-Yu
Your Jim -- see Jackson
Zimmerman (Kokomo Cr.) -- see (Kokomo Cr.)